Appendix A -431-

```
ATTCGGGTATGTGGTGAAACAGGCGGTCATTGTAAACGGTATTGCGGTTTATAGACAGTG
TGCCGCCCGTTACGCCCGCCCGACGCGGGAAAAGTAGGCAAATTTCCCGCCGCCGAACGC
GCCAAACGCACAAAAACGCGCAGCAGGCGCGGTGCTATGTGTTGAAACATCGCCCCAAAC
CTGATGCAACATCAGTGAAAATCGTTCTTTTTTAACCAGGTAAACCGAGACAAACAACCC
TCCGCCGTCATTCCCGCGCAGGCGGGAATCCGGACCTGTCCGCACAGAAACTTATCGGAT
AAAAACAGTTGCTCAAACCCCGAGATTCTAGATTCCCACTTTCGTGGGAATGACGGTTCA
GTTGCGTTCCGACAACACCGTAATCTTGAAACTCGTCATTCCCGCTCAGGCGGGAATCTA
GAACGTGGAATCTAAGAAACCGTTTTGCCCGATAAGTTTCCGTGCGGACAGGTCCGGATT
CCCGCCTGCGCGGGAATGACGGCATTTCTGCGGCAATCGGATTATTTCCAAACCAAAAGC
GCGTGGTTGCGTTTGCCGCGCCGAAGGATAGTGTATTTGCCGAAACGTTTGTGTTCGCCG
TTCAGCAGGCAGGCATCGTCGGGGCGTTCGGCGGCGTGGTTGGGGTTGTTGGCTTCGGCA
GGTTTGCCGTTGAGCAAAACCGCTTTGCTGTTCACAAAGCCGCGCGCTTCTTTATTGGAG
GATGCCAAACCGGTTTTTACCAAGGCTTCGACGACATTGATGCCGTCTGAAACTTCAAAT
GCAGGCAGGCCGTCGAGGGCGAGCTGCTCGAAGTCGCTTTCGGTCAGGCTGCTTTGGTCT
TCGGCAAACAGGCTTTCGGAAATGCGTTGCGCGGCGGCAAGGGCTTCTTCGCCGTGAATC
AGGCGGGTCATTTCTTCGGCGAGGATGCGTTGCGCTTCGGGCTTGCTGCCGCTTGCCTTG
TCTTTGGCTTCGATGGCATCGATTTCTTCGATGGACAGGAAGGTAAAGTATTTCAGGAAT
TTATACACATCGGCATCGGCGACTTTCAGCCAGAATTGGTAGAACTGATAGGGCGAGGTT
TTTTTCGCGTTCAGCCATACCGCGCCGCCTTCGGTTTTGCCGAATTTGGTACCGTCTGAT
TTGGTTACCAAAGGCAGGGTCAGACCGAATACTTGTTTTTGGTGCAGGCGGCGGGTCAGG
TCGATACCGGCGGTGATATTGCCCCATTGGTCGGAGCCGCCGATTTCCAAAACCGCGCCG
TGGCGTTTGTTCAACTCGGCGAAGTCGTAACCTTGCAGCAGGGAATAGGCGAACTCGGTG
AAGGAAATGCCTGCGCCGTCGCGGTCGATGCGCTGTTTGACGGATTCTTTGTTCAGCATG
GCGTTGACGGACAAATGCTTGCCGATGTCGCGCAGGAAGTCAAGGCAGTTCATGCTGCCG
AACCAGTCGGCATTGTTCGCCATAATGGCGGCATTTCCGCCTTCAAAGCTCAAGAAAGGG
GTTAATTGGTTGCGGATACTTTCCACCCAGCCGGCAACAGTTTCGGCGGAATTCAAGCTG
CGTTCGGCGGCTTTGAAGCTGGGGTCGCCGATCATACCGGTCGCGCCGCCCACCAAAGCA
ATCGGCGTATGCCCCGCCTGTTGGAAGCGGCGCAATGCCAATACGGGCAGCAGGTGTCCG
ATGTGCAGGCTGTCGGCGGTCGGGTCGAAGCCGCAATAAAGGGCAATTTTTTGTTCGTTC
AACAAAGCGTCTAAGGCTTCGATGTCGGTGGTTTGCGCGATAAGGCCGCGCGATTGCAGG
TCTTGGATGACGCTCATCGGTCTCTTTCAAAAAAAAATTAGCGTTTTTGCAAACCGCCGAT
TGTAACAAATTTAAGCGAATCAATGGTTATGGCGCGTATCGAGAAACCGTTGTTTTTCGG
AAAAACGCTTTGCCAATTCCGTGCCGCCGTAAGGGTTGATGTGGTCTTTGTCCGAGTAAA
CCGGCAATCCGCCGATTTGAAAATCTGCGGGGATATAGGCGGCGGCATCAATAATATAGA
CGTTGGGGTATTTGGCTGCCAATTCCCTGATGCGTGCATTCGCTTTCAGGGTGCTTTCGT
CGTCCGGGCGCAGGGCTTGGCGGTAACCCGGTATGCGTGAAGACAAGATATAGGCGCGCT
GGACGTTGTAAGACGAGGCAAGGTTGTCCGCCATCAGGTAAACGGCTTGTTTTTCGGACG
AGAGTTTATGCAGCATACGGTCGAATTTTTGGAAAAAACCGGCATCATAGGCAAGGGAGC
GGCTGTTTTCGGGCATTTGGCTGCCCCAGCGCATCGCCAAAACCACTTTTGAATACCGGG
GCAGGTGTTCTTCGGCATAGCGATAAACGGCGCGGCAGGCTGCCCAGTTTTGGAACACAC
GGGACGCGTAGCCTTCCACATAGGCGCAAGCGTCGGCGGAAACCATAGTGGCGGACCATT
TTTCTTTTTTGCCCACGGCATCGAAGAATGTTTTGTAATGGTCGGCGTGGGAGTCGCCCA
AAACCAGCAGTTCCGGCTGTTTTTCCGTATCCCCCCATAGGCATTGTTTGCCGGTATTGT
TGTGGCAGGAGGTGTTGGAACGCGTCAGCCCCAAGCGGTCGTATTGCCGCCATAAACGGCA
GTCTCATCGCAAAAAACGAGCCCGCCCCCAAAATGAGCATAGGCAAGGCATAAATCCATA
AAACGGATTGTGCGAACGAACCTTGCCATTTTTTAAACGGTTTTTCGATGCAGTGGTAAG
AAAACAGGGAAAGCAGCAATATCAGGACGACCGCCGCCGCCGGCGAATAAGGCGGCAGGT
TGTCCGGGCCGATATAGCGCATAAAGGCCAATATCGGCCAATGCCCACAGATAAAGCGAAT
AGGAAATCAAACCGGCGGCAACAGTGATTTTCGATTGGAAAAATTTTTTAAGCGGGTGTT
CGTAATGATTGAAATAAATCAGCGCGGCAACAGCCAGACAGGGAATCAAAGCGGCGGGGC
CCGGGAAATAGGCGGTTTGTTCCGAATAGGAAAACAGGCAGGTTGACAATATGCACACGG
CAAACAATGCGCCGACGGCGGCACAGCGTCTGCCGACGGCAGGTTGCCGGCAGCGCATCC
ACACGGCGGTCAGCGATCCTATCAGTAATTCGCAGGCGCGCAGGTGGGGCAGGTAATATT
TATCGAGCGCGGAAGGTATAAAGGAGGCGGCAAGGCTTAAGGCACACAGTGCGGCAAGGA
AGCCGAACTGTACGCGCAGGCTTTTGCGGGCGACAAGACAGCAGTATCGGAAAGACAA
AGTAAAATTGTTCTTCGACCGACAAAGACCAGATGTGCAGCAGGGGCTTTTCTTCCTGCG
CGGGGATCGAAATAATCCTTCCCCCTTGCAAAATACAGGTTAGAGGCGAAACCCAAGGCGG
TCAGCGCGGATTTCCACAAAAGAAAGAAATCATCTTTGGTGAATAAAAAGAAGCCGCCTG
CCAGCGTTGCCGCCAATACGGCGAAAAATGCGGGCAGAATCCGCTTGATGCGGCGGATAT
AAAATGCCTTCAGGGAAAACCTCCCCCCCCCCCCGACATTTCGCGGTGAAGAATCGTCG
TCATCAAAAAGCCTGAAATCACAAAGAATATATCGACACCGAGAAACCCGCCCGGCAGCC
AATCCTTTTCGATATGGAACACGATGACGGACAAGACGGCGGCGGCGCGCAATGTGTCGA
TGTCCGGGCGGTAGGGTAAGGCTTGGCTCATAATGTTTTTATAGTGGATTAACAAAAACC
AGTACGGCGTTGCCTCGCCTTGCCGTACTATCTATACTGTCTGCGGTTTCGTCGCCTTCT
CCTGATTTAAAGTTAATCCACTATACTCGAAACGCGGCGGCGCAAATGCCGTCTGAAAGG
TCATTTCGTATCGGGGATCGGGATATTCGGAATGCCGGACGGCTTCCCGTAACGGCGGGG
CAGGCGGTTTGTTTTGCAGGAATCGGGGAGGGCAAATCGGAAATGCGGGTGGGAGTTTAT
TTTGATGCGGCTGCATTCCGGCCGTACGGGAAACGCCGAAATCATCAAAATCGGCTTCA
GACGGCATTTCCGGCAAGCCGCCTGAAACCTGCCGCATTTGGGTTACACGTTAAACAAAA
AGTGCATCACATCGCCGTCTTGCACGACATATTCCTTGCCTTCCACACGCGCATTTTGCCGG
CTTCTTTGGCTTTGGCTTCGCCGCCGAGCGAGACAAAGTCGTCGTAAGAAATGACTTGGG
CGCGGATGAAGCCGCGTTCAAAATCCGTATGAATCACGCCGGCGGCTTGCGGCGCGGTGT
CGCCTTTGTGTATCGTCCACGCCGCGACTTCTTTCACACCGGCGGTGAAATAGGTTTGCA
GCCCCAAGAGGTCGTAACCGGCACGAATCAGGCGGTTCAGGCCCGGTTCTTCCAAGCCCA
TTTCGGCGAGGAACTCGGCTTTTTCGTCGTCTTCCAATTCGGCAATTTCGCTCTCCATCG
```

Appendix A   -432-

```
CGGCGCAAACGGCGACGACGGGGGCGTTTTCTTTTGCCGCCAATTCTTTCAGGCGGTCGA
GGTGCGGATTGTTTTCAAAACCGTCTTCGGCGACGTTGCCCACATACATCGCCGGTTTGG
CGGTCAGCAGGAACAGCGGTTTGAGCATCGCGCGTTCTTCCGCGTCCAAACCGAAGGAAC
GCACGGGTTTGCCTTCGTCCAGATGCGGCAGCAGTTTTTTGCACAAATCGACCAGCTTTT
GCGCGTCTTTGTCGCCTGAGCGGGCGCGTTTTTCTTCGCGGACGATGGCTTTTTCGACAC
TTGCCAGGTCGGCAAGTGCCAACTCTGTGCCGATGGTTTCAATGTCGGCAATCGGATCGA
CGCGGCCTGCAACGTGGACGATGTTGTCGTCGTCAAAGCAGCGCACGACATTCACAATCG
CATCGGTTTCGCGGATGTTGGCAAGGAACTGGTTGCCCAAGCCCTCGCCTTTGCTCGAG
CTGCAACCAAACCGGCAATATCGACAAATTCGACGATGGCAGGCTGCATTTTTTGCGGAT
TGACGATTTTTGCCAATTCGGCCATACGCGGATCGGGGACTTCGACGATGCCGACGTTGG
GTTCGATGGTACAGAAAGGATAGTTTGCCGCTTCGATACCCGATTGGGTCAGCGCGTTAA
AAAGGGTGGATTTGCCGACGTTGGGCAAACCGACGATGCCGCATTTCAAACTCATGTTTT
TTCCTGAAAATAGAGAAATTTAACGGCGGATTATAGCATACCGCCGCCCGCGTTCCGAAA
AAATGCCGTCTGAAACGGCTTCAGACGGCATCCGGTTTCAGAAAACCGTTCAGAACAAGC
CGTGAATCACGCCTTCTGCGTCCACATCGATTTTCTCGGCAGCCGGAACTTTGGGCAGGC
CGGGCATTTTCATCATGTTGCCGCACAGGGCGACGATGAAACCTGCGCCTGCGGAAACGG
TGATGCCGCGCACGGCGATGCGGAAGTCTTCGGGGCAGCCCAACAGTTTGGCGTTGTCGC
TCAAAGAGTATTGGGTTTTCGCCATGCAGATCGGCATTTTGTCCAAGCCCAGTTTTTCCA
GTGAAGCGATTTCGGCAGACGCTTCCGCGCTGAAATCAACATCTTCCGCGCCGTACACTT
TTTGGGCAATCGCACGGATTTTGTCTTTGATGCCCAACTCGACATCGTAGGCGAAACCGA
AGTTATTGGTTTGACTTTCAATGGCGTTGACGACTTTGCGCGCCAAATCCGCGCCGCCCG
CACCACCTTTGCCCCACACTTCGGTCAGGGAAACTTCAACGCCGTGTTCGGCACAGGCTT
TTTCAATCATCGCCAACTCGGCATCGGCGTCGGACACGAAGCGGTTGAGCGCAACGACGA
CGGGCAGTCCGAATACGTTTTTCAGGTTGGGAAATGTGTTTCAGCAGGTTGGGCAAACCTT
TTTCCAAAGCGTCTAAATTTTCTTCGCCGAGGTTGGCGCGTTCCACGCCGCCGTTATATT
TCAACGCGCGGACAGTCGCCACGACAACAGCCGCATCAGGTTTCAAACCGGCAAGGCGGC
ATTTGATGTCGCAGAATTTTTCCGCGCCCAAGTCCGCGCCGAAGCCTGCTTCGGTTACGG
CGTAATCGGCAAGGTGTTTCGCCAGACGGGTTGCGGTTACGGGAGTTGCAGCCGTGGGCGA
TGTTGGCGAACGGGCCGCCGTGTACGAAGGCGGGCGTTCCTTCGATGGTTTGCACCAAGT
TGGGCTTAATCGCATCTTTAAGCAATGCCGCCATCGCGCCATTCGCTTTCAAATCTTTGG
CGTAAACGGGGCTGCCGTCTTTGGCGTAGGCGACAAGGATGTTGCCCAAACGCTCTTTCA
AATCGCTGATGTCTTTGGCAAGACAGAATACCGCCATCACTTCGGAAGCAACGGTAATAT
CGAAACCGTCAGGACGCATCACGCCGTCAACGGGTTTACCCATGCCGTCGATGATGTTGC
GCAACTGGCGGTCGTTCATATCGACCACGCGCCGCCACAGCACGCGTTTGGGGTCGATGT
TCAACTCGTTGCCTTGGTAGATATGGTTGTCGAGCATCGCGGCAAGCAGATTATTTGCCG
CACCGATGGCGTGAAAATCTCCGGTGAAGTGCAGGTTGATGTCTTCCATCGGCAAAACTT
GGGCATAGCCGCCGCCTGCCGCGCCGCCTTTCACGCCGAACACCGGCCCCAGAGAAGGTT
CGCGCAGGGCAATCACGGCATCTTTGCCGATGTGGCGCAACGCGTCCGCCAAACCGATGG
TTACGGTGGTTTTGCCTTCGCCCGCCGGAGTCGGGTTGATGGCGGTAACCAAAATCAGCC
TGCCCTGTTTTTGCGGCAGTTTGAACGCTTCGGCAGGATTGATTTTCGCCTTGTAATGAC
CGTAAGGCTCAATGTTGTCGGCATTCAGACCAAGCTTGGCGGCAATTTCGCCAATCGGGC
GCATGGTGGAGGATTGGGCGATTTCGGCATCGGTTTTGAAGCTCATGATTTTCCTTTAGA
AATGAGGAGGGACATGCCGTCTGAAAGCATCAGGCGACAAACAGGTGGATTGAAAATAAT
ATCAGGCATATTATAACGTTATCCGCACCAAACCCGCAGTGAAATTTTTGACGCAGCAAC
AAAAATACCGTTCATATTGTTCACAATCCAAGGAGAAAACATGGGCAGCAACGCATGGCT
GTTTTGGGCATTGGCATCGGCAGGCTTCGCCTCATTGACCGCTATTTTCGCCAAAATGGG
TTTACAGGGTATAGATTCCGATTTCGCCACCTTTATCCGCACCTTGGTCATCCTTGCCGC
TTTGTTATTGTTTTTAACCTACACCGGCAAATGGCAGGGTGTGAACGGCTTTACGGGGCG
CAACTGGACATTCCTCATCCTATCCGGTCTTGCTACCGGCGCATCTTGGCTCGCCTATTT
TAAAGCCCTGCAACTGGGCAACGCCTCGCAAGTCGCCCCCATCGACAAATTCAGCCTGGT
CTTGGTCGCGCTGATGGCGGTGGTTTTCTTGGACGAACGCCCGAACACGCAGGAATGGAT
AGGCTTGGGGCTGGTAACGGCGGGCGTGTTGGTGCTGGCGTTGAAACGTTAAACCGAATC
CGCCATACCGTCTGAAACCGGGTTTTTACTTCCAAGCCCCTGCAAGGGCTTGAGCCTCTT
TCAGACGGCATACCGTGCCGACATCCAGCCACAAGCCCGTATGCTTCTGACCGCTCACGC
GGTTTTGCCGCATTTCGCCACGCAATACGGGCGCGAGTTTCGCCACACTGCCCGCTTCGA
TTCCGTCAAACATTTCAGGACGGTAAATACCCACGCCGCTGAATGTCAATCCGTTGCCGC
CATTTACTTCCGGCCGCACGCTGCTGTCGGGCAGCAGGGAAAAATCGCCGTCGGGGTTGT
GCGGCGGATTTTCCACCAGCCACAGATGGGCGGAAATATGTTCCGGCAGGGACGATGCCG
TCTGAAACGCGGCGGTAAAATCGATGTCGGTCAGCACGTCGCCGTTGACCACCAAAAACG
GCTGCCCACCCAACAGCGGCAATGCCTGCGCGATGCCCGCCTGCCGTTTCCAAACCGCCTG
CGGGTTCGGGCGAATAGGCGATGTTCACGCCATAAGCCGAGCCGTCGCCCAAAGCATCTT
CTATCTGCCGACCCAGCCAAGCGTGGTTGATGACGATTTCGGTAAACCCCGCCTGCTTCA
GACGGCATAGGTGCCAACCGATTAGAGGCTTACCCGCCACATCGAGCAGCGGCTTCGGAG
TGGTATCGGTCAAAGGGCGCATACGCTCGCCGCGTCCTGCCGCCAGTATCATCGCTTTCA
TATATCGTGTCCGAATATCAGTCTAAAAATCTAAACTGCCGTCTGAAATACAGCAGCGCGG
GGCGTTTGCACCCGCAGTTTTTGATTTCGTCGAGCCTGACGTAAAACACAAAATGCGTGC
CGATTTCATGTTTGCCGACAATATGCCCGTGCAGGTGCGCCAACGCGCCCTCTATTTCAA
GTTGTCCCGTTTTGCCGCGATGCCAGATGTGGTAGGCAAACCGCTCTTCGGGCGACAGGC
CGGTCAGCCCGGCAAAATGTTCGGCAACATCCTGATGTTCGTCCGCCAGCGTATTGATGC
AGAGGCTGCCGTTTTCCGACAGGATCGGAATGATTCGCGCACTCCGGTTGATGCACAGCA
TCACGGTCGGCGGCTCGTCGGTAACCGGCGCGACCGCCGTCATTGTAATGCCGTAACGCC
CTGCCGCACCGTCTGTCGTGATGACATGAACGCCTGCCGCGCAAGATGCCATCGCATCAC
GGAACGAAGTTTGAAAATTTTTCTGCAAATCCGCCATTTTTCCCCTTTAAACTGTCCCCT
ATATAAGAATGCTGCACACAAGGCATCCCCCATGTGCAGCAGTTTTGATTCAAAAAGCCG
TCGGTCGGACGTTTCCGCGCGTTACGGCGTATTACGAGTTCAACGCATCCTCGATTTTGG
```

```
CAAGTTCTGCCAACAGGTCTTTAAGCAGCAGCATTTTCTCGCGGCCCAGCACTTCCTCGA
TAGCGTCGTAGCGTTCGTCCACTTCTTCGCCGATTTCCTCATACAGCTTCTCGCCCTCGG
CAGTCAGCTTCAGAAAAACACGTCGTTGGTCGTTGGAAGGTTTCAGGCGGACAACCAAAC
CCGCTTTTTCAAGGCGGGTCAGGATACCGGTCAGGCTGGGGCGCAAAATGCACGCCTGAT
TCGCCAAATCTTGAAAGTCCAGCGTGCCGTTTTCCGCCAAAAGACGGATAATCCGCCATT
GCTGATCGGTAATATTCGCCTGATTCAGAATAGGCCTGAATTGGGTCATCAGGGCTTCCC
TTGCCTGTATCAGACCGATATTGATAGACGCATGTTTGATTGGGTAGGCATTGTTTAAG
TCTCCAAGTTATCGAAAATCAAACTTTCAAACCGTCGGGAAAGCCTGTGGGCGTAAATTT
TGATGCAACCGTTATATAACAAAACGAACATATAGCAACAATACGCTATAAACCGCATCG
GACGACTGGGTATAAAAGACTTTAATTCCGATAATCCTATCTAAAAATATTTTAATAGTT
ATATCTTAATCTATTTTTCCCACAATCACAACAAGGGATTACATCGGCAGGCGCGTCGGC
TCTTTCCCAAAAAACAAAAGCCGCCGCATCCGCCGCGCAAGGCATATGCCGCTTGATTCT
CTACATAGCGGAAAATTTAATAAAAACAAAAGTTAACCGAAAACATCCGCCTGAAAAATT
CGTGCGCGCAAGCCCCAATAACTGCTGATTCCCGTCGTATAGTGAACCATTTTCCCATTT
TTGACCAAAACGACGGCAGGCGTTGCGACAATCCGCCAAGACCTTGCCAAACCCCCGTCC
TCATCGTTGACAGTCGGAAAGCCCAAGCCGCGTTTTGCCATATACGCCGCCACTTCCGCC
GAACTGCCGGAACGTACCGCCACGCCGACGACCGGCACGCCGTCCGCCGCCAAATCATCG
ATTATCGGCGACTGATAACGCACACGCCGCACCAGCTCCCCCAAAAATACACCCAAAACC
GCCTTATCTCGGCTAAACTGTCCCAAAGTCAGCCGCTGCCCCGACAGCAGGGTCAAAGGC
CGCCCTGCCGCACCGGCCGGCTCTTCGGGCTTGCGTATCCAATCCAAAAACAGCGACACC
AATAAAAACACCAATGCCGTCTGAACGGCAAATTTGATGCCCGAAAGCAGTTTCTTTTTC
ATACGCTCTCTCAAACGGTACGCCCGCGCAACCGGCAGGCAAACAAAAAGCCAAGTCTCA
AAACTTGGCTTCCGGTTATCTGGTGGGTCGTGAGCGGATTCGAACGCTCGACCAACGGATT
AAAAGTCCGCTGCTCTACCGACTGAGCTAACGACCCGATAAGCCGTGCATTATACAGCAC
CATCCTACCTCGTCAAGCAAATTTTACAGGCTTAATTGCAGACCACTGTTTGCACGGGAT
ATTTTGACAACGGATTTTCACAATCCGCCGCATACCGTGTAAAAGTTCGCACAAGGAAAA
GCAAACCGCCCGAAATCAATGTACACTTTCCGCCCGTTTCCCTTCCCAACCTGCACACAG
AAACACACATTATGAACATACAAAACATCCGCACCCTCCTCGACACCGTCGCCGTTCCGA
ATACGGCACGCACGCTCGGCGGCGAAAAGGCCGTCCGTTCGGTCGAACAGCGTTCAGACG
GCATCCATATCGCCCTGCATTTCGGCTTCCCCGTCGCGCACATTGCCTCAGAAACAGCCG
ACCGCATACAGGAAATCCTGATGCCCGAAACAGGCGACACACACATCCATCTGTCCATGG
ACACTGAAATCGGCACACACAAAGTCCAGCCCGGCGTTACCACCATCAAAGGCGTGAAAA
ACATCATCGCCGTCGCATCGGGAAAAGGCGGCGTGGGCAAATCGACAACCACCGCCAACC
TTGCCGCCGCAATGGCGCGCATGGGCGCGCGCGTCGGCGTGCTCGATGCCGACCTTTACG
GCCCGAGCCAACCGACCATGTTGGGTGTGGACGACCGCAAACCCGATCAGAAAAACCAAA
AACTCATTCCCGTCGAATCTTCAGACGGCATACAGGTCATGTCTATCGGCTTTCTCGTCG
ATACCGACCAAGCCGTCGTCTGGCGCGGGCCGATGGTCAGCCAAGCCTTGCAGCAGCTGA
TGTTCCAAAGCGAGTGGGACGAAGTGGACTACCTGTTTATCGACCTGCCCCCCGGCACGG
GCGACATCCAGCTCACGCTGTCCCAGCGCATCCCCGTAACCGGTTCCGTCATCGTAACCA
CGCCCGCAGGACATCGCCCTGATAGACGCGCGCAAAGCCGTGGATATGTTCCGCAAAGTCA
ACATTCCCATTTTGGGCGTATTGGAAAATATGTCCGTCCACATCTGCACCAACTGCGGAC
ACAGCGAAGCACTGTTCGGCACGGACGGCGGCAAAGATTTCGCCGCACGCCTCAACGTCC
CCCTGCTCGGACAGCTTCCCCTAAGCCTGCCCGTGCGCGAAGCCATGGACGGCGGCACAC
CGGCGCAACTGTTCGACGAACACCCCGCCATCGCCCGAATCTACACCGATGCCCGATTCC
AAATCGCCCTGAGCATTGCCGACAAAGGCAAAGACTTCAGCAGCCGCTTCCCCAAAATCG
TCGTCGAATAAAGCCGCGTCCGAAACCGCAACAGCAATGCCGTCCCAAGCCCCGCGCCTG
CCGGCGGGCAAACTTGCCGGATAAAACGGTTTTTTTGAGATTTTACGTTCCGGATTCCCG
CCTGCGCGGGAATGACGAATTTTAGGTTTCTGATTTTGGTTTTCTGTTTTGTAGGAATGA
TGAAATTTTGAGTTTTAGGAATTTATTGGAAAAAACAGAAACCGCTCCGCCGTCATTCCC
GCGCAGGCGGGAATCTAGACCTTAGAACAACAGCAATATTCAAAGGTTAGCTGAAGCTTT
AGAGATTCTAGATTCCCACTTTCGTGGGAATGACGGGATGTAGGTTCGTGGGAATGACGC
GGTGCAGGTTTCCGTGCGGATGGATTCGTCATTCCCGCGTAGGCGGGAATCTAGACCATT
GGACAGCGGCAATATTCAAAGATTATCTGAAAGTCCGAGATTCTAGATTCCCACTTTCGT
GGGAATGACGGGATGTAGGTTCGTGGGAATGACGCGGTGGCAGGTTTCCGTGCGGATGGAT
TCGTCATTCCCGCGCAGGCGGGAATCTAGACCTTAGAACAACAGCAATATTCAAAGGTTA
GCTGAAGCTTTAGAGATTCTGGATTCCCACTTTCGTGGGAATGACGGGATTTGAGATTGC
GGCATTTATCGGAAAAAAACAGCAACCGCTCCGCCGTCATTCCCGCGCAGGCGGGAATCCA
GACCTTGGGATAACAGTAATATTCAAAGATTATAAAAGACCCGTCATTCCCGCGCAGGCG
GGAATCCAGACCTTAGAACAACAGTAATATTCAAAGATTATAAAAGACTCGTCATTCCCG
CGCAGGCGGGAATCCAGACTGTCGGGCATCTGCAGCGGTTTGCTAAAAAACGCTTTACCG
TGATCAGTGTGCAAAGTTAAAATGGGGAGGTAAGCTTTTCAATCAGCAATCCGGCGGGCG
CGGGATCGGGCGGTTTACCGAACCCCGGTGTTCGCGGCGCGCCTGCCGCCGACGGTATCC
CGCGAAGCAAGATTTAAGGGATAAAATATGTTCCAACACGCAGGGCGGCACATAAGGCGC
CGCCCTGATTCGGAAGGGCTTGCACCCCTCCCGGACAAAGCCTGATCCTGCCGCCCCGAA
GGACGGATGCCCGAAGGGCGGGGGGTTTGACCGAAAAGGAAATACGATGAATAAAACTTT
AAAAAGGCGGGTTTTCCGCCATACCGCGCTTTATGCCGCCATCTTGATGTTTTCCCATAC
CGGCGGGGGGGGGGGGGCGATGGCGCAAACCCATAAATACGCTATTATCATGAACGAGC
AAAACCAGCCCAAGGTAAAGGGGAATGGGCAATATTCAACAATAAAGGACAAAGACAGGG
AACGCAAATTTATCTATAATAAAAGCGGCCGGGGTGGAGGCTCTGTCTTTTTCGACAATA
CCGATACCCTTGTTTCCCGACAAAGCGGTACTGCCGTTTTGGCACAGCCACCTACCTGC
CGCcCCTACGGCAAGGTTTCCGGTTTTGATGCCGACGGGCTGAAAGAGCGCGGCAATGCCG
TTAATTGGATTCATACGACCCACCCAGGGTTGATAGGCTACAGCTACACCAGTGTCGTAT
GCAGAGACAGCACAGGCTGTCCCAAACTTGTCTATAAAACCCGATTTTCCTTCGCAACA
CCGGTTTGGCAAAAAATGCGGGCAGCCTGGATAGGCACCCGGACCCAAGCCGCGAAAATT
CGCCCATTTACAAATTGAAGGATCATCCATGGTTGGGCGTGTCTTTCAATTTGGGCAGCG
```

Appendix A   -434-

AGAATACCGTCAAAAATGGCAACTCATTCAACAAATTGATATCTTCTTTTAGTGAAGACA
ATAATAATCAAACCATCGTCTCTACGACAGAAGGCTCCCCTATTTCCCTTGGCGACCAGC
AGCGCGAACATACCGCCGTGGTCTATTATCTGAACGCCCAAACTGCACCTGCTGGACAAAA
AAGGGGATTAAAGATATCACCGGCAAAACAGTGCGGTTGGGTGTCTTGAAGCCGAGCATCG
ATGTGAAGCACACAAATACGGGGCTTGGCGGCATTCTAGCTTATTGGGCTAGGTGGGACA
TTAAAGATACCGGGCAGATTCCAGTCAAGCTCGGCCTGCAGCAAGTCAAAGCAGGCCGCT
GCATCAATAAACCGAACCCCAATCCCAACAAAAAAGACCTTTCGCCGGCCCTGACTGCCC
CCGCGCTGTGGTTCGGACCTGTGAAAGATGGTAAGGCGGAGATGTATTCCGCTTCGGTTT
CTACCTACCCCGACAGTTCGAGCAGCCAAATTTTCCTGCAAAACCTTTCCCGCAAGGATG
ACACAAGCAAACCGGGCCGCTATTCCCTCAAACCCTTGAGTACGTCGGAGATTAAAAGTA
AAGAGCCGAGTTTCACGGGGCGGCAAACCGTCATCCGATTGGATGGCGGCGTACGGCATA
TCCAACTGGATAGAAACAATGAGGCCACCGGTTTAAATGGAAATGACGGCAAAAACGACA
CTTTCGGCATTATTAGAGAAGGGAGCTTCATGCCTGATGCCAGCGAGTGGAAAAAAGTAT
TGCTGCCTTGGACGGTTCGGGGTTTTGCTGATGACAGTAAATTTAAAGCATTCAACAAAG
AAGAAAACAACGACAACAAGCCAAAATACAGCCAAAGATACCGCATCCGCGAAAACGGCA
AGCGCGATTTGGGCGACATCGTCAACAGCCCGATTGTCGCGGTCGGCGAGTATTTGGCTA
CTTCCGCCAACGACGGGATGGTGCATATCTTCAAAAAAGGCAACGGGGACGCGCGCGACT
ATAGTCTGAAGCTCAGTTATATCCCGGGCACGATGACCGCCGCAAGGATATTCAAAACACCG
AATCCACCCTTGCCAAAGAGCTGCGCACCTTTGCCGAAAAAGGCTATGTGGGCGACCGCT
ATGGCGTGGACGGCGGCTTTGTCTTGCGCCGCATTACAGATGACCAAGACAAGCAAAAAC
ACTTCTTTATGTTCGGCGCAATGGGCTTTGGCGGCAGAGGCGCATACGCCTTGGATTTAA
GCAAAATCGACAACAGCAACCCGGCCGGCGTTTCCATGTTTGATGTCAAAAACGACAATG
GCGTGAAATTAGGCTACACCGTCGGTACGCCGCAAATCGGCAAAACCCACAACGGCAAAT
ACGCCGCCTTCCTCGCCTCCGGTTATGCGACTAAAGCATTAACAACGGCGAGAATAAAA
CCGCGCTGTATGTGTATGATTTGGAAAACAACAACGGTACGCCGATTGCAACAATCAACG
TACCCGACGGCAAGGGCGGGCTTTCGTCCCCCACGTTGGTGATAAAGATTTGGACGGCA
CGGTCGATATCGCCTATGCCGGCGACCGCGGCGGGAATATGTACCGCTTTGATTTGAGCA
ACAACGATCCGACCAAATGGTCTGTACGTACTATTTTTAAAGGCACGCTGGATAAGCCGA
TTACCTCCGCGCCCGCCGTTTCCAAACTGAAAGACAAACGCGTGGTTATCTTCGGTACGG
GCAGTGATTTGAGTGAGGATGATGTTGATAAAAAGGATATACAATCTATTTACGGTATTT
TTGACAATGACACAGGCACGGATGTGGCAGAAGAAGGACAGGCAAAGGGTTGCTCGAGC
AACACCTTACTCAGGAAGATAAAACCTTATTCCTGACCGATTACAAGCGATCCGACGGCT
CGGGCGACAAGGGCTGGGTAGTGAAATTGGAAGCCGGACAGCGCGTTACCGTCAAACCGA
CCGTGGTATTGCGTACCGCCTTTGTAACCATCCGCAAATATAACGACGGCGGCTGCCGCG
CGGAAACCGCCATTTTGGGCATCAATACTGCCGACGGCGGCAAGCTGACCAAGAAAAGC
CGCGCCCGATTGTGCCGGAAGCCAATACGGCTGTCGCGCAATATTCCGGTCATAAGCAAA
CCGCCAAAGGCAAATCCATCCCTATAGGTTGTATGTGGAAAAACAATGAAACCGTCTGCC
CGAACGGATATGTTTACGACAAACCGGTTAATGTGCGTTATCTGGATGAAAAGAAAACAG
ACGGATTTTCAACAACGGCAGACGGCGATGCGGGCGGCAGCGGACATTCAAAGAGGGTA
AAAAACCCGCCCGCAATAACCGGTGCTTCTCCGGAAAAGGTGTGCGCACCCTGCTGATGA
ACGATTTGGACAGCTTGGATATTACCGGCCCGATGTGCGGTATGAAACGAATCAGCTGGC
GTGAAGTCTTCTTCTGATTTGCACGCGAAAATGCCGTCCGAAAGGTTTTCGGACGGCATT
TTTTGCGTTTTTCGGGAGGGGCGGGTTCGTAAAAGGCGGGCTATAGGGTAGGCTTCATCT
CGCCAATCTCACTGAATCCATCAATTTCCACAATTCAATTAAATACCGTCAAACCGATGC
CGTCATTCCCGCGCAGGCGGGAATCTAGACATTCAATGCTAAGGCAATTTATCGGGAATG
ACTGAAACTCAAGAAACTGGATTCCCACTTTCGTGGGAATGACGGGATGCAGGTTCGTGG
GAATGACGTGGTGCAGGTTCGTAGGAATGACGTGGTGCAGGTTTCCGTGCGGATGGATTC
GTCATTCCCGCGCAGGCGGGAATCCAGACATTCAATGCTAAGGCAATTTATCGGGAATGA
CTGAAACTCAAAAAACTGGATTCCCACTTTCGTGGGAATGACGGGATTAGAGTTTCAAAA
TTTATTCTAAATAGCTGAAACTCAACGCACTGGATTCCCGCCTGCGCGGGAATGACGAAG
TGGAAGTTACCCGAAACTTAAAACAAGTGAAACCGAACGAACCGGATTCCCACTTTCGTG
GGAATGATGGGATTAGAGTTTCAAAATTTATTCTAAATAGCTGAAACCCAACGCACTGGA
TTCCCGCCTGCGCGGGAATGACGAATTTTAGGTTTCTGATTTTGGTTTTCTGTTTTTGTA
GGAATGATGAAATTTTGAGTTTTAGGAATTTATCGGAAAAAACAGAAACCGCTCCGCCGT
CATTCCCGCGCAGGCGGGAATCTAGGACGTAAAATCTCAAGAAACCGTTGTACCCGATAA
GTTTCTGCGCCGACAAACCTAGATTCCCGCCTGCGCGGGAATGACGGTTCAGTTGCGTAG
GACTGGATTGTGAAAAGGGGCGGATTCGGTGAAAACGGCGGAAATGTGGGATTGATGGAA
TCGGTGGGCTGAAGCCCTCCCTACAGAGCTTTCAGACGGTATTGTTTGCGTTTTCGGGAT
GGGGGGCAAATGAAACACCGACAAACCGATACCGTCATTCCCGCGCAGGCGGGAATCTAGA
CATTCAATGCTAAGGCAATTTATCGGAAATGACTGAAACTCAAAAAACTGGATTCCCACT
TTCGTGGGAATGACGATTCGGACATTCCTTAAACTACCCGTGTATCGCTGTAAATCTTAG
AGATGGAGGAATAAAGACCGTTGGGCATCTGCAGCCGTCATTCCCGCGCAGGCGGGAATC
TAGGATGCGGAATCTCAAGAAACCGTTATACCCGATAAGTTTCTGCACCGACAGGTCTGG
ATTCCCGCCTGCGCGGGAATGACGATTCGGGTATTTCTGACGGTTCGGGCATTCCCGACA
AGGTGGATTTTCAAGGTGTTGTATAGGGTGTAGGAGGATTCGTAAAAGGTGAGTTATAGG
GTGGGCTTCAGCCCACCGATTCCAACGATTCCACCAATCCTACACCGTTCCCATAGACTC
AAATCAACACAGAAACTTATGCGCCGTCATTCCCGCGCAGGCGGGAATCTAGGATGCGGA
ATCTCAAGAAACCGTTATACCCGATAAGTTTCTGCACCGACAGGTCTGGATTCCCGCCTG
CGCGGGAATGATGGTTCGGGTATTCCTGACGATTCGGGTATTCCTGACGATTCGGGTATT
CCTGACGATTCGGGTATTCCTGACGATTCAGGTATTCCTGACGATTCGGGTATTCCTGAC
GATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTCA
GGTATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATT
CCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTCGGGTATTCCCATA
--GTTTCGCCGGGCGGACGTGGGGAAATGCGTAACGGGCATAGTGGGCGCGGAGCGGGCGGT
TTTATGCCCCGGATTTCCGTTTTCGCGCGAACATATCAGCCCGCCTGCCGCGTTTGCGCT

```
TGAAATCGGGTATGTTTCGTCTTAAAATATGCTGCTTTCAGGGTATAGGCACTTGCCCGA
AAAGCACGTTACGCGTCTATCTTGCGCGGCGTGTTTTTTTTGACCGGATTTTTCCGACC
GGATGCCCCCTGCCGAAGTCCCTTCAGACGGCATTGTCAAGAATTTTATTAAAAACAGGA
TTCCCATCATGAGCACCCCCGCCCTCCTCGTCCTCGCTGACGGCAGCGTATTTCACGGCA
CATCAATCGGTTACGAAGGTTCGACTTCCGGCGAAGTCGTGTTCAATACTTCGATGACCG
GCTATCAGGAAATCCTGACCGACCCGTCCTACTGCAAACAAATCGTTACCCTCACCTACC
CACACATCGGCAACACCGGCACCAACGCCGAAGATGAAGAAAGCCGCAGCGTTTATGCCG
CCGGCCTGATTATCCGCGACCTGCCGCTCTTGCACAGCAACTTCCGCGCCTCCGAAAGCC
TGCACGACTATCTGGTACGCAACAAAACCGTCGCCATCGCCGACATCGACACCCGCCGCC
TGACCACGCTGTTGCGCGAAAAAGGCGCGCAAGGCGGTGCGATTCTGACCGGTGCGGATG
CCACAATCGAAAAAGCGCAAGAACTCATCGCCGCGTTCGGCAGCATGGTCGGAAAAGATT
TGGCAAAAGAAGTTTCCTGCACGGAAACTTACGAATGGACGGAAGGCGAATGGGCATTGG
GCAAGGGTTTCGTTACCCCTGACGAACAGCCTTACCACGTCGTCGCCTACGATTTCGGCG
TGAAAACCAACATCCTGCGTATGCTCGCCTCGCGCGGCTGCCGCCTGACCGTCGTCCCCG
CCCAAACGAGCGCGGAAGACGTGTTGGCACTCAACCCTGACGGCGTATTCCTATCCAACG
GCCCCGGCGACCCCGAGCCTTGCACCTACGCCATCAAAGCCGTACAAAAACTGATAGAAA
GCGGCAAACCGATTTTTGGCATTTGCTTGGGACACCAGCTCATCAGCCTCGCCATCGGCG
CGAAAACCCTGAAAATGCGCTTCAGCCACCACGGTGCGAACCACCCTGTGCAAGATTTGG
ACAGCGGCAAAGTCGTCATCACCAGCCAAAACCACGGTTTTGCCGTTGATGCCGACACCC
TGCCCGCTAACGCACGCATTACCCACAAATCCTTGTTTGACAACACTTTGCAAGGCATCG
AGCTGACCGACAAACCTGTGTTCTGCTTCCAAGGCCACCCCGAAGCCAGCCCCGGTCCGC
AAGATGTCGGCTATTTGTTTGACAAATTCATTGGCAATATGAAAGCGGCAAAACGGGCAT
AATGGTTTTCAGACGGCAACAGTATGCTGCTGCCGTCTGAAAAACAAAGCTGGAAATGAA
GATTAGCGCACTCGACCATCTAGTACTAACTGTTGCCGACATTGACCGAACCATCGCGTT
TTATAGTGAATTAAATTTAAACCGGTACAGCGTTGGCTCGCCTTGCCGTACTATTTGTAC
TGTCTGCGGCTCGCCGCCTTGTCCTGATTTTTGTTAATTCACTATACACACAAGTTTTGG
GCATGGAAGAAGTTTCATTTGGCAGCGACCGTAAAGCTTTGTTGTTTGGCAGTCAGAAAA
TCAACCTACACGGGCGCGGTGCGGAAATTCAGCCTAACGCGCAACACGCCGCCTGCGGCA
CAGCGGATTTATGCCTGCTGACCGATACGCCACTGGAAACGGTTTTACAGGAATTATCCG
CACACGGCATCAAACCTTTAAGCGGCATCGTAGCGCGCACAGGCGCAATGGGCAAAATCC
AATCGGTTTACCTGCGCGATCCCGATGGCAACCTGCTGGAAATCAGCAGTTATTGATTTT
CAGACGGCTTATGCAAAATAAAAAACAGCCTGCACAAGCTGTTTTCCTTGCAGCCTCTTT
AACCCCAACAGCCGCCCCGTCCTCTCTCCCTGTGGGAAAGCGTTAGAGAGAGGGCAACAA
GCCGCAAGGCTTGTGTTTGGGCGGTTAGGGTGTTGGGGAAGGTTGCCGAAATTCGGGGAA
TGCCCTCTCCCCGGCCCTCCCCCACGGGGGAGGGAGAAGGTTGCAGCAGATTTTGCGGTT
GCAGGCGGTTTGAAAGGCAACTTAGATTTGCAGCTGTTGTTTCAGGTCATCTGAAAAATA
AAAAGCAGCCTGCACAACCTGTTTTCCTTGCAAAACCCTTAATCCCAACCGCCACCACGT
CCTCTCTCCCATGGGAGAGAGTCAGAGAGAGGGCAACAAACTGTAAGGCTTACACAAACA
GTAACCCGACAACAGAATGAGCACGCACGAGAAACTTTTAACCGCCGACAACCCCGTCCT
GCATCAACGCGCCAAAGCCATGCGCCAAGAAATGAGCGAGGCGGAAGCAAAATTGTGGCA
GCACCTGCGGGCAGGCCGTCTGAACGGCTATAAATTCCGCCGCCAGCAGCCGATGGGGAA
TTATATTGTTGATTTTATGTGCGTAACGCCCAAGCTGATTGTCGAAGCAGACGGCGGGCA
GCACGCGGAACAAGCCGTATACGACCACGCGCGGACGGCATATCTCAACAGCCTGGGCTT
TACCGTGCTGCGTTTTTGGAATCACGAAATTTTGCAGCAGACAAACGATGTACTGCGCGA
AATCCTGCGCGTATTGCAGGAATTGGAAAAGCAGTATGCGCAATAACAAACGGTTAATTT
TGATTAGAGTTTTGAAAATTATAGGATACAGGTAGGGTACAGGCTGCTTGAATTGAGCGT
TTAGAAGACCGTCTGAAAAACAAAAAACAGCCCGCACAACCTGTTTTTCCTGCAGAACCC
TTAATTCCAACAGCCGCCCCGTCCTCTCTCCCTGTGGGAAAGCGTTAGAGAGAGGGCAAC
AAGCCGCAAGGCTTGTATTTAGGCGGTGAAGGCATTGGGGAAGGTTGCCGAAATTCGGAG
AATTCCATCTCCCCAGCCCTCCCCCACGGGGGAGGGGGCAGGTTGCAGCGGATTTTGCGG
TTGCAGGCGGTTTGAGAAAGAATGCCCGAAATATCAACAGCGGGAATTTTTCAGGCAGCC
TTTATCGCAAGGCAGGTGGAACAAACGCCGCGAACGTTTTTTCAGACGACCTTTGAACTC
ATCGGCAGAGAGTGTGCCGCAAGGCACGCACGCGGTGGGTTGGGGTTGCAGGGAAAATGG
AGAACGCGTGCATACGTACCGCACATACCCTACATACGGGCTACGGCTTGCTACGATACG
GGGGTTTCGATATACAAGTTAGGTTTTAGCAAACCCAACATTTTAGACAATTAAGCGGTT
TGTGTTGGGTTTTCAACCCAACCTACGCTTGCTACGTTTATTGCAACATATTCGCAGGAG
TTTAAATATGTCAATACCTATTAATTTCAATAATTTAAAGTATTTGCTTAATGATATGAG
AAACAAAAATAGAATAATTGAAGCATTTCCTTTTAATTATAATCAAAGGCAATACGCCGT
TATTTTGACTAGGTATAAACCTGATGAACCTAGACCAGATGATTATGCACAAGCAAAATT
AGAGTTTTTTAATTTGAATAGTGAAAATTCAATATTTGCGTATGCTGATTTTTATGAAGT
TCATTTTAAAAGTGCTACTGATTTTATTAATTTTTTTAAAATTAATGTTCAGGCTGGTGC
TGCGAAAATCAGAGAAATTTTTCAGAGTTTTAGTAATCTTTTTGCAGATTTCATTCCAAC
ACAAACTAAAAAAGATTTAGACATAATTTATAAAAAGATTGTAGCTACTCGTTTAGAACC
TAATTCTCCTAACACTATTTATTGCTATGATGTCCGTAGAAATGGGAAAGATAAGGCTGG
CAAGCCTAATCGCAGGAGCGTGGAAAAATAGTGAAAAAGCAAAAATTTTGCGCCCAGAGCT
ATACGAAAAATTTAAAGCCGATAGTAATTACAGTTTTTTCTTTTCAGATAATCCAAGCGA
TGAAAAAACAGATGCAGAAATAATTAGAGAAGTTACCAATCGTCAATAATCCAAATTCTT
CAAAAGAAAGACCCACCATGCCCAAACGTACCGACCTAAAATCCATCCTTATCATCGGCG
CCGGCCCTATCGTTATCGGTCAGGCCTGCGAATTTGACTATTCGGGCGCACAGGCCTGCA
AAGCCTTGCGTGAAGAAGGCTATAAAGTCATTTTGGTGAATTCCAACCCCGCCACGATTA
TGACCGACCCCGAAATGGCGGATGTTACCTACATCGACCGGATTATGTGGCAGACGGTGG
AAAAAATTATTGCCAAAGAGCGTCCTGACGCGATTCTGCCTACCATGGGTGGTCAGACTG
CGCTGAACTGTGCGCTGGATTTGGCGCGCAACGGCGTGCTGGCGAAATACAATGTCGAGC
TGATCGGCGCGACCGAAGACGCCATCGACAAAGCAGAAGACCGTGGCCGCTTTAAGGAGG
CGATGGAGAAAATCGGCCTCTCCTGCCCGAAATCTTTTGTCTGCCACACGATGAACGAAG
```

Appendix A -436-

```
CTTTGGCGGCGCAAGAACAGGTCGGCTTCCCTACCCTGATTCGTCCTTCTTTCACCATGG
GCGGTTCGGGCGGCGGCATTGCCTACAATAAAGACCAGTTTTTGGCGATTTGCGAACGCG
GTTTCGATGCGTCGCCCACGCACGAGCTGTTGATTGAGCAGTCCGTTCTCGGCTGGAAAG
AGTACGAGATGGAAGTGGTGCGCGATAAGAACGACAACTGCATCATCATCTGCTCGATTG
AAAACTTCGACCCGATGGGCGTGCATACAGGCGACTCGATTACGGTTGCGCCGGCGCAAA
CGCTGACGGACAAGGAATATCAAATTATGCGTAATGCTTCGCTGGCGGTATTGCGCGAAA
TCGGCGTGGACACGGGCGGCTCGAACGTGCAGTTTGCGGTGAACCCTGCAAACGGCGAGA
TGATTGTGATTGAGATGAACCCGCGCGTGAGCCGTTCTTCCGCGTTGGCTTCCAAAGCAA
CGGGGTTTCCCGATTGCGAAGGTGGCGGCGAAGCTGGCGGTCGGCTTTACGCTGGACGAGT
TGCGCAACGACATCACCGGCGGCAAAACCCCCGCGTCGTTCGAGCCTTCCATCGACTATG
TGGTTACCAAAATCCCGCGTTTCGCGTTTGAAAAATTCCCTGCCGCAGACGACCGCCTGA
CCACGCAGATGAAATCGGTGGGCGAAGTGATGGCGATGGGCCGCACGATTCAAGAAAGTT
TCCAAAAAGCCCTGCGCGGCTTGGAAACAGGCTTGTGCGGCTTCAATCCGCGCAGTGAAG
ACAAAGCGGAAATCCGCCGCGAACTGGCGAACCCCGGCCCCGAACGTATGCTGTTTGTGG
CAGACGCGTTCCGCGCGGGCTTCACGCTGGAAGAAATCCACGAAATCTGCGCCATCGACC
CTTGGTTCTTGGCGCAAATCGAAGACTTGATGAAGGAAGAAAAAGCGGTTTCAGACGGCA
TTTTGAGTGATTTGGATTTCGCCGCCCTACGTCGTCTGAAACGCAAAGGCTTCTCCGACA
AACGTTTGGGCACAATTGTTGAACGTAAGCGAAAAAGAAGTTCGCGAACACCGCTACGCG
TGAAGCTGCATCCGGTTTACAAACGCGTCGATACCTGCGCCGCCGAGTTCGCCACCGAAA
CCGCCTATCTTTACTCCACTTACGAAGAAGAATGCGAATCTCGTCCTTCCGACCGCAAAA
AAGTGATGATTCTCGGTGGCGGCCCGAACCGCATCGGTCAGGGCATCGAGTTTGACTACT
GCTGCGTTCACGCCGCGCTCGCCCTGCGCGAATCGGGCTTTGAAACCATCATGGTCAACT
GCAACCCCGAAACTGTGTCCACCGACTTCGACACCAGCGACCGCCTGTATTTCGAGCCGC
TGACGCTGGAAGACGTGTTGGAAATCGTCCGCACCGAAACCCGTGGGGCGTGATTGTGC
ATTACGGCGGCCAAACCCCGCTCAAACTCGCCAACGCGCTGGTTGAAAACGGCGTGAACA
TCATCGGCACGTCCGCCGACAGCATCGACGCCGCCGAAGACCGCGAACGCTTCCAAAAAG
TGTTGAACGACTTAGGCCTGCGCCAACCGCCCAACCGCATCGCCCACAACGAGAAGAAG
CGCTCGTCAAAGCCGAAGAAATCGGCTATCCGCTGGTCGTGCGCCCGTCTTACGTCCTCG
GCGGCCGCGCCATGCAGGTCGTCCATTCCGCCGAAGAGCTGCAAAAATACATGCGCGAAG
CCGTGCAGGTTTCCGAAGACAGCCCCGTGTTGCTCGACTTCTTCCTGAACAACGCGATTG
AAGTGGATGTGGACTGCGTTTCAGACGGCAAAGACGTGGTTATCGGCGGCATCATGCAGC
ACGTCGAACAGGCGGGCATCCACTCCGGCGACTCCGGCTGCTCGCTGCCGCCCTACTCCT
TAAGCGAAGAAATCCAAGACGAAATCCGCCGCCAAACCAAAGCGATGGCGTACGCGCTGG
GCGTGGTCGGACTGATGAACGTGCAGTTTGCCGTACAAGACGGCGTAGTGTTCGTATTGG
AAGTGAACCCGCGCGCCAGCCGCACCGTGCCCTTCGTCTCCAAAGCCACCGGCGTGCCGC
TCGCCAAAGTCGGCGCGCGCTGCATGGCAGGCATTTCCCTGAAAGAACAAGGCGTGGAAA
AAGAAGTTGTCCCCGATTTCTATGCCGTTAAAGAAGCCGTGTTCCCATTCATCAAATTCC
CGGGCGTGGATACGATTTTGGGACCGGAAATGCGCTCCACCGGCGAAGTCATGGGCGTGG
GCGCAAGCTTTGGCGAAGCCTACTACAAAGCCCAACTGCGCGGGCGGAACGCCTCAACC
CGACCGGCAAAATCTTCCTCTCCGTGCGCGAAGAAGACAAAGAACGCGTCATTAAAACCG
CTAAAAACTTCCAAGTTTTAGGCTACGGCATCTGCGCCACGCGCGGCACGGCGCAATACC
TGACCGAACACGGGCTGATTGTGCAGACCATCAACAAAGTACCCGAAGGCCGCCCGCACA
TCGGCGACGCGCTGAAAAACGGCGAAATCGCACTGGTCGTGAACACCGTTTCCAGCGATC
CGCAATCCGTGTCCGACAGCCACATCATCCGCCAAAGCGCATTGCAGCAACGTGTGCCGC
AATACACCACCACCGCCGGCGGCGAAGCGATGAGCCAAGGCGCGAAAAGCCGAGACCATC
TGGGCGTGTACAGCGTTCAAGAACTGCACGGGCGTTTGAAAAACCGCAACTGATGCCTGA
ATCAGGTTGAAAATGCCGTCTGAAGCCGTTTTGCGGTTTCAGACGGCATTTTGTCATTTG
GAAAGCCGATGTTGCCACACACAAGCCGTACATAAGGAACAGCCCTATCACGCTCCCCAT
ATAGATTGCCATTGCCGCCGACTATACATTATCTTATTTATTTTTTCTCAAAGTTATTAA
GTGAGTAAAAACAGTTTTATGACAGGTTTTTATAGAATTATCCACAGAGATTGTTTCCCA
GTTCCTCCACTAAAAAATCCAAAAATACGCGTAAGCGGAGATTGACGGCTTTATCGCTGT
AATAAACAGCATTAAAGGGGTGTGTTTATCGGAGGTTTGTTCGGCGAGCAGGGGAATTA
ACTTTCCTTCAGCGATGTCGTTGTCAACCAAAAAATCTGATAAGCAAACAATACCGCAAC
CTGAAAGGCACAACGAGCGTAAGATTTCACCGCTGCTGGCGGTAAAGTGCGGTGAAATCT
TATAGGGATTTCCCTGCGCATCTAAAACCGCCCATCTATTTAGAGAACCGGGTTCGGTGA
AGCCTAAACATTGGTGGCCGGCAAGCTCTTCTGTAGATTGCGGCGTGCCGTGTTTTGCCA
GGTATTCAGGACTGGCGATTACGCGGAAGCGGCTGTCAAACAGATGGCGTGCACGCAGCC
CGGAATCGTCCAATTCTCCGGCCCGTAAGGCAATATCGACTTTGCGTTCAATCAGATTGA
TATAGCCTTCGGAAGAAACGAGCGAAAGTCGGATATGCGGATAGCGTTCGTTGAATTTTG
CTGCCAGCGGCGCCAGCAGATGCAGCACCATCGGCATCGCGGAATCCACGCTCAACACGC
CTTGCGGTATTTCGTGCACTGCCAGCATTTCGGTTTCCGCCGCTGCCATTTCTTGCAGGA
TTCTCTGCGCGCGGCGGAAATATTGCGCGCCTTCTTCCGTCAGACTGAGTTGCCGCGTGG
TGCGGTTGAGCAGGTTCACACCCAACTTTTCCTCCAGCCGTTTGACGATGCGGCTTACGG
CAGAATTTGCCATCGCCAACTGCTCCGCCGCACGGCTGAAGCTGCCGCTTTCCACCACTT
GAACAAATACGGTCAGTTCTTCTGAATTGGTTTTCATCGTGTTTCCTTTTCGGTTGGAAC
CCCGCCCTTTAGGGCGGCAGGATCAGACTTTATTTGGGAGGGGTGTAACCCCTTCCGAAT
CAGGACGGCACACAGGGCGGTGCTTTATGTGCCATCCCGTGTGTTGGAACATCTGATTAT
TTCATTTGACGCAAAAGTGTTTTCTTATTTTTGCACTTTTAAATTATAAAGTAAAACGGC
ACAATACATTCATCAATTCACAAACGAGGTAACAAATGAATATTTTATTATTAGACGGCG
GCAAGGCGTTCGGACATTCTCACGGCGGGTTAAACCGTACGCTTCACAAAAAAGCGAAAG
AAGTTTTGACCGCGCTCGGACACAATGTTCAAGAAACCGTGATTGATGCCGGCTATGATG
TTGAGGCAGAAATCGAAAAGTTCGTTTGGATGGATGCTGTGATTTGGCAGATGCCGGGCT
GGTGGATGCACGAGCCTTGGACAGTGAAAAAATACATAGACGAAGTATTAACCGCTGGAC
AGGGCAAACTCTACCAAAGCGACGGCAGACACAGCGTCAATCCGACTGAGGGCTACGGCA
CAGGCGGCTTGTTGCAAGGCAAAAAAACATATGATTTCACTGACTTGGAATGCGCCGATTG
```

Appendix A   -437-

```
AAGCCTTTACCCGCGAAGGCGATTTCTTTGAAGGCAAAGGCGTTGATGTTTTGTATATGC
ACTTCCACAAAGCCAACGAGTTTTTGGGTATGACCCGCCTGCCGACATTCTTATGTAACG
ATGTGGTTAAAAATCCGCAAGTGGAAAAATACTTGGCAGATTATCAGGCACACTTGGAAA
AAGTGTTCGGCTAAAAATTTATCTTATAAACAAACAAAGGCAGCCTGAAAGATTGAATGG
TCTGCACCCCTAAGGTTGGACTAACCAACCGACTAAGGTGCAGATTATTTTTTGTTGCTT
TTTCAGCTTTTCGTTGGGTTAGATATTCTTGCCCACTGTTTTCAGGCAGCCTTGAATACA
AAAAAATGGCGTATGTAATATGTTTATACCGACCAAAACGGAATGAATTTTAACGTATTGC
GCGGTCATCAACAATGACTGAGTTTCTCGCCTCTCGCGCCTGAATCTATAGTGGATTAACA
AAAACCAGTACAGCGTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTTG
CCTTGTCCTGATTTAAATTTAATCCACTATATGTCATGCAGTTCCTTTCATTCAAATCAA
CAAAAGAATGCCCGTCCGAACGTCCGTTCAGACGGCACTTGTCTTCCCACAATAGACTTGA
GGCTGTTCTAACGTACCACCCCTTCGTTCCGCCCCAAAACCATCGCATCGCCGTAGCTGA
AGAAACGGTATTCGCGTTCGACCGCATGACGATACCGGCGGCGGATATGACCCATACCCG
AAAACGCGCTGACCAACATCAGCAGCGTCGATTTCGGCAAATGAAAATTGGTAACCAGTC
TGTCGACAACATTAAAACGGTAGCCCGGCGTGATGAAAATATCGGTGTCGCCCTGCCCCG
CTTTCAGACGACCCGTCGCACGCGCGGCAGATTCGAGGGCGCGCATGGAAGTCGTGCCGA
CCGCCCAGACTTTGTTCCCCCGGGCTTTTGCCGCCTCAACGGCGGCGGCGGTTTCAGACG
GCACTTCAAACCATTCGCTGTGCATTTTGTGCTCTTCGATTTTGTCCACACGCACGGGTT
GGAACGTTCCGGCACCGACGTGCAGGGTTACTTCTGCGGTTACCGCGCCTTTGTCTTTCA
GACGGTGCAAAAGTTCTTCCGTAAAATGCAGGCCCGCCGTCGGCGCGGCGACCGCGCCCT
GATATTTGGCATAAACGGTTTGATAACGGCTGTCGTCATCCGCATCGGCGGCGCGTTCGA
TATAAGGCGGCAGGGGCAGGTGTCCGTTCTGTTCCAAAAGTTCGTAAACGGTCTCTCCGC
CTTCAAAACGCAGGCAGAACAGTTCGCCCTCACGCCCGACCGTCACGGCGCGGATGCCGC
CTTCAAACACCAGCCCCATACCGGGCTTGGGCGATTTGGACGAACGGATGTGCGCCAGTG
CGGTATGGTTGTCCAACACGCGCTCAATCAGGGCTTCGATCCTGCCGCCGCTGTCTTTCT
GCCCAAACAGCCGCGCCTTCATGACTTTGGTGTTGTTGAACACCAAAACGTCGCCCGCCT
CGACATAATCCGGCAAATCGCCGAACACCCGGTCTTGCAGCGGCATATCGGGCAACGCAA
CCAAAAGGCGGCTGCTGCCGCGCACTTCGGGCGGATGCTGGGCAATCAGCTTTTCGGGCA
GGGTAAAATCAAAATCTGAAATATCCATTTTTACACTCTCGTTCGGGCAAGCCGCCATTA
TACGCACTTTAGCCCTTTTTCAGACGGCATCTTTGTCCGAAAAACCAACAGATTAGAATA
AACACTCTTAACCTGGAACATCTTGTGCGCAAAATCAAACTTCCTGCACATTTCCCCCAA
AAACCGCCGTTTTTTGATATTTTACTGGACATTTACCGACAACTTCGGGAAAATAAACAC
ATTCTCACGGTCGTTTTCCACCACAGGAAAACCGTATCCGAACACCATTCCGCCCGGTTT
GCGCCGTTGCCGCAAGCCGGCTGTTTTCTGAAAAACCAACGCAACAACCCGCCGGAACAC
CGGCAGCCTTTAAAGGAACAGAAATGGATTTGCGCAAATTAAAAAAAACTGATTGATTTGG
TTGAAGAATCGGGTATCGCCGAAATCGAAGTAACCCAAGGCGAGGAAAAAGTCCGCATCA
CCCGAACCATCGCCGCCGCACCCGTTTACGCCGCGCCCGTACCTGCCGCCGCGCCGGCCG
TAACGCCTGCCGCCGCACCCGTTGCGGCATCCGCGCCCGCCGCCGCACCTGCCGCCCGCG
ATTTGTCCGACGCGCAAAAATCGCCTATGGTCGGCACGTTCTACCGCGCACCCGGCCCGA
ATGCCGCGCCTTTTGTCGAAGTCGGCCAACAAGTTAAAGCCGGCGACACGCTGTGCATCA
TCGAAGCGATGAAGCTGATGAACGAAATCGAAGCCGAAAAATCCGGCACGGTCAAAGAAA
TTTTGGTCGAAAACGGTACGCCCGTCGAATTCGGCGAACCGCTCTTCATTATCGGATAAT
CCTGTTTTCAGACGGCATAAACTTCCGATGCCGTCTGAAATGCTTTCCCCCTTCAGCGTT
CCCGCCACCCTTTTTTACGGACGGGTTGCCGGAACCGCAGGAAAGGTCATCATGCTGAAAA
AAGTTTTAATCGCCAACCGAGGCGAAATCGCATTACGCGTACTCCGTGCCTGCCGCGAAA
TGGGCATTGCCACCGTCGCCGTGCATTCCGAGGCCGACAAAGACAGCCTGCACGTCAAAC
TCGCCGACGAATCCGTGTGCATCGGCCCTGCCGCTTCCGCGCAAAGCTACCTTAACGTCC
CCGCCATTATCGCCGCCGCCGAAGTAAGCTGCGCGGACGCTGTCCATCCGGGTTACGGTT
TCCTTGCCGAAAACGCCGATTTCGCCGAACAGGTCGAGCAGTCCGGCTTTACCTTTATCG
GCCCGAAACCCGACACCATCCGCCTGATGGGCGACAAAGTCTCCGCCAAACACGCGATGA
TAGCGGCAGGCGTACCCTGCGTCCCCGGTTCTGACGGCGCATTGCCCGACGACGGCGAAG
AAATCCTCAAAATCGCCGATAAAGTCGGTTATCCCGTCATTATCAAAGCCTCTGGCGGCG
GCGGCGGCCGCGGTATGCGCGTGGTCGAGAAAAAAGAAGACCTCCTCCAATCTGTCGAAA
TGACCAAAGCCGAAGCAGGCGCGGCATTCGGCAACCCGATGGTTTACATGGAACGCTATT
TGCAACGTCCGCGCCACGTCGAAATCCAAGTGATTGCCGACGAACACGGCAACGCCCATCT
ACCTTGCCGAGCGCGACTGTTCGCTGCAACGCCGCCACCAAAAAGTCATCGAGGAAGCAC
CGGCTCCGTTCATCACTGAAAAAGAACGCGCCAAAATCGGCAACGCCTGTGCCGATGCCT
GCAAACGCATCGGCTACCGGGGCGCGGGTACGTTTGAGTTTTTATACGAAGACGGCGAAT
TTTTCTTTATCGAGATGAACACGCGCGTTCAGGTCGAGCATCCGGTTACCGAGCTCATCA
CCGGCGTGGACATCGTGCAGGAGCAACTCCGCATCGCCGCGGCCTGCCTTTGCAATACA
AACAAAAGGATATTCAAGTCGAAGGCCACGCGTTTGAGTGCCGTATCAACGCCGAAGACC
CGTACAACTTCATTCCAAGCCCGGGCCTGATTGAAAGCTGCCACCTGCCCGGCGGCTTCG
GTATCCGCGTGGACAGCCACATTTACCAAGGCTACCGCATCCCACCGTACTACGACAGCC
TGATCGGCAAAATCTGCGTACACGGCAAAACGCGTGAACAGGCAATGGCGAAAATGCGCG
TCGCACTCGCCGAGCTGGCGGTAACGGCATCAAAACCAATACGCCGCTTCACCGCGACC
TGTTCGCCGATGCGGGTTTCCAAAAAGGCGGCGTCAGCATCCACTATTTGGAACACTGGC
TGGAAGATCGCAAAGCCAAACAGGACAAGTAAACCGCCGCCGATATGCCGTCTGAAGCCG
CCCGTCCGCGTTCAGACGGCATTTCCCTTGCCCCGCGCCGTCTGAAACCGATTTCGATAT
AGTGGATTAACTTTAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAAAGATTCT
CTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCG
TCGCCTTGTCCTGATTTAAATTCAATCCACTATATTCCAAGAAAGCCCGTTATGCCCTA
CCAACAAATCACCGTCAACGTCAACGATGCCGTCGCCGAACGCCTCGCCGACGCGCTGAT
GGAACACGGCGCACTCTCCGCCGCCATCGAAGATGCCTACGCCGGCACGCAAAACGAACA
GGCGATTTTCGGCGAACCCGGTATGCCCGCCGAACAAATCTGGCAGCAGAGCAAAGTCAT
CGCCCTGTTCGGCGAACACGACGAAGCCGCCGCCATCATCCAAACCGCCACACAAGAATG
```

Appendix A   -438-

```
CGGGTTAAAAGACTTGGCATACACCGGCGAAACCATCGAAGACCAAGACTGGGTGCGTCT
CACGCAATCGCAATTCGACCCCATCCGGGATTTCCGACCGCCTGTGGATTACCCCCTCTTG
GCACGAAGTCCCCGAAGGCAGTGCCGTCAACCTCCGCCTCGACCCCGGACTCGCCTTCGG
CACCGGCAGCCACCCGACCACGCGCCTCTGCCTCAAATGGTTGGATACGCAACTCAAAAA
CGGCGAAAGCGTCCTCGACTACGGCTGCGGTTCGGGCATCCTGACCATCGCCGCCCTCAA
ACTCGGTGCAGGTTTCGCCGTCGGCGTGGATATTGACGAACAGGCCGTCCGCGCCGGCAA
GGACAACGCCGCGCAAAACAACGTCGATGCACAATTCTTCCTGCCCGACGGTCTGCCTCA
AGGGCAATTCGACGTAGTTGTCGCCAACATCCTCGCCAACCCTTTGCGTATGCTTGGCGA
AATGCTCGCCGCCCGCACCAAACAGGGCGGACGCATCGTGTTGTCCGGTTTGTTGGACGA
ACAGGCCGAAGAACTCGGCGGCATTTACAGCCAATGGTTCGACCTCGACCCGGCGGAAAC
CGAGGAAGGATGGGCGCGATTGAGCGGCGTAAAACGCTGAAACGGAAAGGAAACACCGTG
CAGGATAAAAACAACCTCTGCTGGCTCGATATGGAAATGACGGGGCTGAATCCCGAAACC
GACCGCATTATCGAAGTCGCGATGATTATTACCGACTCGGATTTGAATGTGTTGGCGCAA
TCCGAAGTTTACGCCGTCCACCAAAGCGACGACGTGCTGAACAAAATGGACGAATGGAAC
ACCGCCACACACGGCAGGACGGGGCTGACACAGCGCGTACGCGAATCGTCGCATACCGAA
GCCGAAGTCGAACAGAAACTGCTGGACTTTATGTCGGAATGGGTACCCGGACGCGCCACG
CCGATGTGCGGCAACTCCATCCACCAAGACCGGCGTTTTATGGTCAAATATATGCCGAAA
CTGGAAAACTACTTCCACTACCGCAACCTCGACGTTTCACGCTGAAAGAACTCGCCAAA
CGCTGGAATCCGCCCGTTGCCAAAAGCGTCGTCAAACGCGGTTCGCACAAGGCATTGGAC
GACATTTTGGAGAGCATCGAAGAAATGCGCCACTACCGCGAACACTTTCTGATTTCCGCC
CCGAGAGCCGAAGCGCAATAAGAAACAAACAATGCCGTCTGAAACGCAGTTTGCATTTCA
GACGGCATTTTTACAGCAGATTGAAATCAAAAATATACACGCCCGTCATTCCCGCACAGG
CGGGAATCCGGAAGGTCGGGCCTGCCGTTATTTTCAATCATTACAGAAACTGAAAGGTCT
GGATTCCCGCCTGCGCGGGAATGACGGGCGTGTGCATTCTTATAGTGGATTAACAAAAAT
CAGGACAAGGCGACGAAGCCGCAAACAGTACAAATAGTACGAAACCGATTCACTTGGTGC
TTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTT
TGTTAATCCACTATACTTCAATCTGCCAAACAGATCGAACAGAGAAACCCTGTCCGTCAA
AACATCATTCAGCCATCGCCTTGAACACTTCAACCGCAACCGCAACCGTTTCGTCAATCA
GCTCGGGCGTATGCGCGGCGGAAACGAAACCTGCTTCATAAGCGGACGGGCCGAAGGCGA
CATTGCGGTCGAGCATCCCGTGGAAAAAACTGTTTGAAGCCTTCAATATTGGAACGCGCCA
TATCGGCATAGTTTCGCGGCGCGTGTGCGGCGAAATACAGACCGAACATACCGCCCACGC
TGTCGGCGGTGAACTCGATGCCCGCCGCATCCGCTGCCGTCCGAAAACCTTGAACCAACT
GTTCGGTACGCGCCGTCAGGTTTTCATAGAAGCCTTCGCGCTGGATGATTTCCAGCGTTT
TCAAGCCTGCGGCGACAGCAATCGGGTTGCCCGACAAGGTGCCTGCCTGATACACGCCGA
CCAGCGGGGGAAATACATTCCATAATGTCTTTGCGCCCGCCAAACGCGGCAAGCGGCATAC
CGCCGCCGATGACTTTGCCCATCGTGGTCAGGTCGGGCGTGATGCCGTGCAAAGATTGCG
CGCCGCCGAGCGCGACGCGGAAGCCGGTCATCACTTCGTCGTAAATCAACACCGCGCCGT
ATTTTTCGGTCAATCCGCGCAAGGCTTTGACAAAGGCTTCGGTCGGGCGGACGAGGTTCA
TATTGCCGACGAAGGGTTCGACAATCACGCCAGGCGATTTCATTGCCGCTTTGAGCAAAGG
CTTCTTCGAGTTGGGCGATATTGTTGTACTCGAGTACCAAAGTGTGTTTGGTAAAGTCGG
CAGGCACACCGGCGGAAGACGGGTTGCCAAACGTCAGCAGACCGCTGCCGGCTTTCACCA
GCAGGCTGTCGGAATGCCCGTGGTAGCAGCCTTCAAACTTGATGATTTTGTCACGCCCGG
TAAAACCGCGTGCCAGACGGATGGCGGTCATGGTCGCTTCGGTACCGGAGCTGACGAGGC
GCAGCCGTTCGACGGACGGCATGATTTTGGCGATTTCTTCGGCAATGACGATTTCGCCTT
CGGTAGGCGCGCCGAACGACAAACCGCCCAATGCGGCTTCGCATACGGTTTCGACGACTT
CGGGGTGCGCGTGTCCGACAATCGCAGGTCCCCACGAGCCGACGTAATCGGTATAGCGCG
TGCCGTTTTCGTCCCAAACATACGCGCCTTCGGCTTTTTTGATAAAGCGCGGTACGCCGC
CGACGCTGCCGAATGCGCGGACGGGGGAATTCACGCCGCCGGGGATGATGGCTTTGGCGC
GGTCGAATAAAATTTCGTTACGGTTCATATATATCCTCAAATGCCGTCTGAACGGCAGGT
TTCGGGCTTGGAAGCAGAAAGCCCCATTTTATCATTTTTCAGGTTGCGACAAGGATTTGC
CCGCTTCTTTGCGGATCACGCCAACCGCATCCCGGATGACGGAACGCTCGTCTTTTTCCA
CTTTATGTGTAAAGCGGTAGTCTCGGACGACTCCCTCCCCGTCGTAATCCACACACCACT
CCCAATGTCGGCGTTCTGATTTCATATAAATGAAATTGGTCGGCAAAAAATTATAAATCG
GCAGGCTGACTTCATGATAGGCATAACAACCGAAAGGGTTGCGCTTCCCGAAACGTGCCT
CTACACCTCCGCCCGGGTCGTTTTGCCTTTAACAACCGTTTGTGCGATTCCCTCTTCCGT
CTGATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACGATA
GTACGGCAAGGCGAGGCAACGCTGTACTGGTTTTTGTTAATCCACTATAACGCAGGAACT
GATGTTCCCTGTCGCCGAAATTGCTGGTACACGCACACAGCAGCAATGCCGCCCATACAG
CCGGTTTCATACACATCTCCCATTAAAGCCAAACATTATACAGCCGTCCCGACCGATTAA
ATTCATATTTTAAAACAATATCCTGCCTCCAAAACCACATCGTGCTATAATCCGCACCG
ATTTTCAGACGGCATCGTCGTGCCGTCTGAAATTTTTTCATTCCAACAACAATCAGCCCC
GCGATTACGGCTGCCTGAGAAAGACACAAACCATGAAAAAAGTATTTATCCGCACCTTCG
GCTGCCAGATGAACGAATACGACAGCGACAAAATGCTCGCCGTCCTCGCCGAAGAACACG
GCGGCATCGAACAGGTTACCCAAGCCGACGAAGCCGACATCATCTTGTTCAACACCTGCT
CCGTGCGCGAAAAAGCGCAAGAAAAAGTCTTCTCCGATTTGGGGCGCGTGCGTCCGCTCA
AAGAAAAAAACCCCGGCCTCATCATCGGCGTTGCCGGCTGCGTCGCCTCGCAAGAAGGCG
AAAACATCATCAAACGCGCGCCTTATGTGGACGTGGTTTTCGGCCCGCAAACGCTGCACC
GCCTGCCAAAAATGATTGTGGACAAAGAAACCAGCGGGCTGTCGCAAGTCGATATTTCCT
TCCCCGAAATCGAAAAATTCGACCACCTGCCGCCCGCCCGCGTCGAAGGCGGCGCGGCAT
TTGTATCGATTATGGAAGGCTGTTCCAAATACTGCTCCTTCTGCGTCGTCCCCTACACGCG
GCGGCGAAGAATTCTCCCGCCCGCTCAACGACGTATTGACCGAAATCGCCAACCTTGCCC
AGCAAGGCGTGAAAGAAATCAACCTCTTGGGACAAAACGTCAACGCCTATCGCGGCGAAA
TGGACGACGGCGAAATCTGCGACTTCGCCACCCTGCTGCGCATCGTCCACGAAATCCCCG
GCATCGAACGTATGCGCTTCACCACCAGCCACCCGCGCGAGTTTACCGACTCGATTATCG
AGTGCTACCGCGACCTGCCCAAACTGGTTTCCCACCTGCACCTGCCGATTCAAAGCGGTT
```

```
CCGACCGCGTATTGAGCGCAATGAAACGCGGCTACACCGCTTTGGAATACAAATCCATCA
TCCGCAAACTGCGCGCCATCCGTCCTGATTTGTGCCTGAGCAGCGATTTCATCGTCGGCT
TCCCCGGCGAGACCGAACGCGAGTTCGAGCAAACCTTGAAACTGGTGAAAGACATCGCCT
TCGACTTGAGCTTCGTGTTTATTTACAGTCCGCGCCCCGGCACGCCTGCCGCCAACCTGC
CGGACGACACGCCGCACGAAGAAAAAGTGCGCCGCCTCGAAGCCTTGAACGAAGTCATCG
AAGCCGAAACCGCGCGCATCAACCCAAACCATGGTCGGCACGGTACAACGCTGCCTGGTCG
AAGGCATCTCCAAAAAAGACCCCGACCAACTGCAAGCCCGTACCGCCAACAACCGCGTCG
TCAACTTCACCGGCACGCCCGACATGATTAACCAAATGATCGATTTGGAAATCACCGAGG
CCTACACCTTCTCCCTGCGCGGCAAAGTTGTCGAAGCCTAAACCCTCACGCCGAAAAAAT
GCCGTCTGAAGCGTTTCAGACGGCATTTTGCCTTGTATCGGCAGACGACGGCGCGGCCGG
GCGGCTTAATTTGCCCGCATCCCGATCCGACAGCCACGCGCGCACACGCCGTTCCACCGCT
TCGGCACTCAAGCCCAAATCGTCTAAAAGTTTTTTCGGATCGCCGTGTCCGGTTACGGTA
TCGGCAACGCCCAAAAGCAAAACGGGTTTGCAGATGCCGTGTTTCGCCAATACTTCCAGC
ACCGCGCCGCCTGCGCCGCCCTGTTCGGCGTTTTCTTCAAGGGTAACGATGCGGTCGTGG
CTTCGGGCAAGGCGGACAATCAACTCTTCGTCTATCGGTTTGACGAAGCGCATATCGGCG
ACGGTGGCGTTCAGTTTTTCGGCAACCGCCAATGCGGGGGCGACCATACTGCCGAAGGCA
ATGAATGCGGTTTTCTCACCTTCGCGGCGGATAATGCCCTTGCCGATTTCCACGGTTTCC
ATGCCGTCTGAAACCGGCGCGCCCGTACCCGTGCCGCGCGGATAGCGGACGGCGGCGGGC
GCGTCTGCCTGATAGCAGGTCGAAAGCAACAGGCGGCATTCGTTTTCATCGCTCGGCGCG
GCGACAATCATGTTCGGCACGCAGCGCAAAAAGCTCAAATCGTACAGACCGGCATGGGTC
GGGCCGTCCGCGCCGACGATGCCCGCGCGGTCGACGGCAAACAAAACGGGTAGGTTTTGC
AGGGCGATGTCGTGCACCAGTTGGTCGTAGGCGCGTTGTAAAAAGGTGGAATAAATCGCC
ACGACGGGCTTCATCCCTTCGCAAGCCAAACCGCCGGCAAAGGTAACGGCGTGCTGCTCG
GCGATGCCGACATCGAAATAGCGGTCGGGGAATCGTTGTTCAAACTCAACCAAGCCGCTG
CCCTCGCGCATGGCGGGGGTAATCGCAACCAGTCGGGAATCTGCCGCCGCCCGGTCGCAC
AGCCATTTGCCGAACACTTGGGTATAGGTCGGTTTGGCGGCGGGCTTGGGTTCTTTTTCA
GACGGCATTTGCGCCGCGCTTTCTTTAGGCAGGTTGGCGACGGCGTGGTATTTGACGGGG
TCGTTTTCGGCGAGTTTGTAGCCGTTGCCCTTTTTTGGTGATGACGTGCAGCAACTGAGGG
CCTTTGCCGGCTGCGCAAGTCTTTCAATACGTCCACCAGATTTTCGACGTTGTGTCCGTCC
ACGGGGCCGGTGTAGCGGAAGCCGAAGTTTTCAAACAAAGACAGCGACTGTTTGGCGTGT
TCGGCTTCTTCGGCAAGGGTTTTGATTTTGTGTTCGACTTTTTGGGCAAACTCCATCGCG
CCGGGTATTTTGTCTAATACCTTGCCCGTTTGCGCTTTGACGGTACTCAACAGGCCGTGC
ATATCGCGCACGACGTTGCTGGCAAGGTATTTCGGCAGCGCGCCGACGTTGGGGGAAATC
GACATTTCGTTGTCGTTGAGGACGACCAGCAAATCCACATCCATATCGCCTGCGCAATTC
AAGGCTTCAAACGCCTGCCCCGCCGTCATCGCGCCGTCGCCGATGATGGCGACGCTGCGG
CGGTCGCTGCCCAAGAGTTTGTCTGCCGCCGCCATGCCCAACGCCGCGCCGATGGAGGTG
GAGGAATGCCCCACGCCGAACGCGTCGTACTCGGACTCGCAACGTTTCGGAAAACCCGCC
AAACCGCCATATTGGCGCATGGTGTGCATCTGGTTTTTCCTGCCTGTCAGGATTTTGTGC
GGATAGCTTTGGTGTCCGACATCCCACACCAGCTTGTCTTCGGGCGTGTCGTACACATAG
TGCAGGGCGATGGTCAGTTCGACCGCGCCCAAATTGCTGGCGAAATGCCCGCCGGTCTGC
CCGACAGATTCCAGCAGAAAGGTGCGCAACTCGCCGGCAAGGCGCGGCAGCTGTTTTTTG
TCCAGACGGCGCAAATCTTGCGGGCTGTCAATCAGGTCGAGTAGGGGGCTTGGGTTCATG
GTGTGTCTTTTTTATGTGTCGTCCGGGTGCAACGGTCAATTATATATCAAGAGCGTGCGG
CTGACGGCTGATTTTGCCGTATGTCATTCGTCCTGCCGCTTGGCGCGCGGGTGGGCTTCG
TCATACAGGCGGGCGATGTGGTCGAAATCGAGCTTGGTATAAAATCTGCCTGGTCGAAAGG
CTGCTGTGCCCGAGCAGCTCCTGCACCGCCCTGATGTCGCGCGAAGCCTGCAATAGGTGT
CCGGCGTAGCTGTGGCGCATCATATGCGGCGAAACGTGCCTGCCGTCGCCGTTTTGCGCC
GCCCATTGCGCCAAACGTTTTTGGATTTGGCGTTGGCTCAGGCGCGTGCCGTTCCTGCCG
GTAAACAGGGCTTTGCCGTCGATGCCGTCTGACGCAGCGGCAGATAGTTTTTCAGGGCT
TCCACGCTTTTGCCGACCAGCGGCACCTGCCGCTGCTTGCGCCCTTTGCCGATAACGTGT
ACCCACGCCTCGTCCAAATAGACATCATCTGCATTCAAGCCGTGTATCTCGCTCACGCGC
AAACCGCTGCCGTACATCAGTTCGAACAGGGCGTGGTCGCGCACCGCCAGCGGGTCGCCG
CCGTCCACGGGCAAATCCAGCATCCGGTTCAGCCATTCCTGCGGCAGGGCTTTGGGTACG
CGCTCGGGCTGCTTCGGCGGTTTGATGTCGGCGGTCGGGTCGGCGTGCATCAGGCCGCAG
TTTACCAGCCAAACGCAATACTGCCGCCAAGACGAAAGCTTGCGAGCCAGCGTCCGTTCC
CCCAAACCGCGGCCGGACAGCCGGCGTAATGCCTGTACGAAGTCGCCGCGAGTGCAATTT
GAAGGGTTTGCAGACGGCATTTCTTCCAGAAGGGCAAGCAGTTCCTGCAAGTCGCGCCGG
TATGCGGCAACCGTGTGCTCCGATTTACCCTCGCGCACGATATTTTCCAAATAAGCGTCC
AAGTATGCCGCAAGTCCGTCCAAACCCATTCCCACACCTAAAATAACATTAGAAACATTA
TCATAAATCGGAATATCCGAATCCCGAAACGTCAAAACCCGACAAACCTGCATACTGGCA
TCGTTAATATAAAATCAATGAGCTGTTTATGGTTTTTTGCTGTAAAAAACATTATAATCC
GCCTTATTTACCTATTGCCCAAGGAGACACAAATGGCACTCGTATCCATGCGCCAACTGC
TTGATCATGCTGCCGAAAACAGCTACGGCCTGCCGGCGTTCAACGTCAACAACCTCGAAC
AGATGCGCGCCATCATGGAGGCTGCAGACCAAGTCGACGCCCCCGTCATCGTACAGGCGA
GTGCCGGTGCGCGCAAATATGCGGGTGCGCCGTTTTTACGCCACCTGATTTTGGCGGCTG
TCGAAGAATTTCCACACATCCCCGTCGTCATGCACCAAGACCACGGCGCATCACCCGACG
TGTGCCAACGCTCCATCCAACTGGGCTTCTCCTCTGTAATGATGGACGGCTCGCTGATGG
AAGACGGCAAAACCCCTTCTTCTTACGAATACAACGTCAACGCCACACGTACCGTGGTTA
ACTTCTCCCACGCTTGCGCGCGTATCCGTTGAAGGCGAAATCGGCGTATTGGGCAACCTCG
AAACCGGCGAAGCAGGCGAAGAAGACGGTGTAGGCGCAGTGGGCAAACTTTCCCACGACC
AAATGCTGACCAGCGTCGAAGATGCCGTATGTTTCGTTAAAGATACCGGCGTTGACGCAT
TGGCTATTGCCGTCGGCACCAGCCACGGCGCATACAAATTCACCCGTCCGCCCACAGGCG
ATGTATTACGTATCGACCGCATCAAAGAAATCCACCAAGCCCTGCCCAATACACACATCG
TGATGCACGGCTCCAGCTCCGTTCCGCAAGAATGGCTGAAAGTCATCAACGAATACGGCG
GCAATATCGGCGAAACCTACGGCGTGCCGGTTGAAGAAATCGTCGAAGGCATCAAACACG
```

Appendix A   -440-

```
GCGTGCGCAAAGTCAACATCGATACCGACTTGCGCCTTGCTTCTACCGGCGCGGTACGCC
GCTACCTTGCCGAAAATCCGTCCGACTTTGACCCGCGCAAATACCTGAGCAAAACCATTG
AGGCCATGAAGCAAATCTGCCTCGACCGTTATCTTGCGTTTGGCTGCGAAGGTCAGGCAG
GCAAAATCAAACCTGTTTCGTTGGAAAAAATGGCAAGCCGTTATGCCAAGGGCGAATTGA
ACCAAATCGTCAAATAACAGGTTGCCTGTAAACAAAATGCCGTCTGAACCGCCGTTCGGA
CGACATTTGATTTTTGCTTCTTTGACCTGCCTCATTGATGCGGTATGCAAAAAAAGATAC
CATAACCAAAATGTTTATATATTATCTATTCTGCGTATGACTAGGAGTAAACCTGTGAAT
CGAACTGCCTTCTGCTGCCTTTCTCTGACCACTGCCCTGATTCTGACCGCCTGCAGCAGC
GGAGGGGGTGGTGTCGCCGCCGACATCGGTGCGGGGCTTGCCGATGCACTAACCGCACCG
CTCGACCATAAAGACAAAGGTTTGCAGTCTTTGACGCTGGATCAGTCCGTCAGGAAAAAC
GAGAAACTGAAGCTGGCGGCACAAGGTGCGGAAAAAACTTATGGAAACGGTGACAGCCTC
AATACGGGCAAATTGAAGAACGACAAGGTCAGCCGTTTCGACTTTATCCGCCAAATCGAA
GTGGACGGGCAGCTCATTACCTTGGAGAGTGGAGAGTTCCAAGTATACAAACAAAGCCAT
TCCGCCTTAACCGCCTTTCAGACCGAGCAAATACAAGATTCGGAGCATTCCGGGAAGATG
GTTGCGAAACGCCAGTTCAGAATCGGCGACATAGCGGGCGAACATACATCTTTTGACAAG
CTTCCCGAAGGCGGCAGGGCGACATATCGCGGGACGGCGTTCGGTTCAGACGATGCCGGC
GGAAAACTGACCTACACCATAGATTTCGCCGCCAAGCAGGGAAACGGCAAAATCGAACAT
TTGAAATCGCCAGAACTCAATGTCGACCTGGCCGCCGCCGATATCAAGCCGGATGGAAAA
CGCCATGCCGTCATCAGCCGGTTCCGTCCTTTACAACCAAGCCGAGAAAGGCAGTTACTCC
CTCGGTATCTTTGGCGGAAAAGCCCAGGAAGTTGCCGGCAGCGCGGAAGTGAAAACCGTA
AACGGCATACGCCATATCGGCCTTGCCGCCAAGCAATAACCATTGTGAAAATGCCGTCCG
AACACGATAATTTACCGTTCGGACGGCATTTTGTATTGCACCGTCCGACGGCATGCCCAA
GGGGGGAAATCCCTATTTTCAGGCCAACCGCTATATAATGCCGTCTGAACCAACGAGAGA
ATGCCATGCAAGCTGATTTTAACCGTCCCGTCCTGCCCGTCGATACCGGTACTTCCCGTT
TGTCGCTCGCGCTGCGTGCCGACGGCGAAACCCGTCGTTCCATCAGGAAGTCGGCAGCC
GCCAGTCCGAACTGATTCTGCCGGAAATCCGCCACCCTATTCCGCGATGCAGGCATTACCG
CCGCCGATTTGGGTGCGGTCGTGTACGCACAGGGTCCCGGCGCGTTTACCGGACTGCGTA
TCGGCATCGGTGTAGCTCAGGGTTTGGCAACGCCGTTTGATACCCCCTTAATCGGCGTAC
CCTCGCTCGATGCCGCCGGCCTCGCTGCCGCCGCCGCAAAGCTGCATCCTTGCCGCTACGG
ACGCTCGTATGGGCGAAGTGTTTTATGCATGGTTCGATACGCTGAACTGCCACCGTTTGA
GCGATTATCAGGTCGGGCGGGCGGCAGACATCCGGCTGCCGGAGGGATGCGCCTTTTCAG
ACGGCATAGGCAGCGCGTTCGCGCTGGAAGAAGCTCCGCCGTTCTCAGGCAGACCGGATA
TGCCGACTGCCGCCGACTTTCTCGCATTGGCAGCCAAGGGCGGTTATCCTGCCGTCCATG
CCGCACACGCCGGTTTGCTCTACGTCCGCAAGCAAATCGCCCTGACTGCCAAAGAACAGG
CCGAACGGAGAGCGCGCCCGTGAACATCCGCCGTGCCGTTTGTGCCGATTGTGAGGAGCT
GGCCGCACTCGATGCCGTCTGCAACCCGTCCGCATGGACGCAACGCCAATTTGAGTCCGC
ACTGGTTTCGCCGTCCGAACAGGTTTTCCTTGCGGAAAAAGACGGCGGGATTGCCGCCTT
TATCGTTTGGCAGAACCTGCCCGACGAATCCGAACTGCACCTGATTGCCACCGCGCCCGA
ATGCCGCCGCCAAGGAATTGCGTCCGCCCTGCTCGAATATTGGTTCACACATCTGCCCGA
AGACACGCAACGCCTGCTGCTCGAAGTCCGTGCAGGCAACACCGCCGCACAGGCACTGTA
CACGGCGCACGGCTTCAGCATTACGGGCAGGCGGAAAAACTATTACCGTACAGCCGACGG
TAAAACCGAAGATGCCGTCTTAATGGAGAAAATATGTTAAGCGCGCGCTACCTCCACCTG
CACGAAGCTTTGGGTTTGGGTCCGATGTGGCTGAAACAGGCCGCCGCCGTCCTGCCGCCC
AAAAACACACCCGCCACCCTCGGCACAGGCACGTCCCCAAACCGTCCGCGCCGCCCCGATC
CGCCCTTCCCAACCCCATAACGGTCAGGCGCGGCTCGAAACGATGAAAGCGTTGGAAACC
GCCGCCGTACCTACGCGCAAACCCGCGCCTGAAACCGAAACGCCTCTGCCCGGCCTTTCA
GACGGCATCGCCCCCGTTCCCGCCGCTTCGGGGCATCACCAAGCTTGCCGTCGTCAGCCTT
TGCCCACCGATCGAGGATGCCGGTTTACGGGCAACTGTTCCACGGCAAAGCAGGCATCCTG
CTCGACAACATACTCAAAGCCGTAGGACTGGATGCCGCCTATGTCCACAAAACCTGTTGG
GTGAAAACCGCCGCCGTCGGCAACCCGATGCCGTCTGAACAGGCCGTCGCGAATGCGCTG
GGTCAAATCGCCCGCGAACTCGACGGCTGCCGCGCCCCGGCTGTCCTTTTCCTCGGGCAG
GCTTTTGTCCAGCCTGAACGGCAAACGATGATTGAAACTTTGTGCGGCAGCCGTCCCTTC
TTCATCATCGACCATCCCGCCCGGCTTTTACGCCAACCCGAACTCAAAGCCCGCGCCTGG
CAGGTGTTGAAACAGTTGAAACGCGCCTTGCGGCAAGGCGGCGGCAGTTGAAGCGCGCCG
CACGGGGCGGTAGAATCGCAACTGCGTCCCAATATCTGACAGGAAAGCACAAAATGACCGA
TTTCCGCCAAGATTTCCTCAAATTCTCCCTCGCCCAAAATGTTTTGAAATTCGGCGAATT
TACCACCAAGGCAGGACGGCGGTCGCCCTATTTCTTCAATGCCGGCCTCTTTAACGACGG
CTTGTCCACGCTGCAACTGGCAAAATTTTACGCACAATCCATCATTGAAAGCGGCATCCG
ATTCGATATGCTGTTCGGTCCCGCCTACAAAGGCATTATTTTGGCGGCGGCAACCGCGAT
GATGCTGGCGGAAAAAGGCGTGAACGTCCCGTTTGCCTACAACCGCAAAGAAGCCAAAGA
CCACGGCGAAGGCGGCGTGTTGGTCGGCGCGCCGCTTAAAGGGCGCGTGCTGATTATCGA
CGACGTGATTTCCGCCGGCACATCCGTACGCGAATCGATCAAACTGATTGAAGCGGAGGG
TGCAACCCCGCCGGTGTCGCCATCGCGCTCGATCGCATGGAAAAAGGCACGGGTGAATT
GAGCGCGGTTCAGGAAGTGGAAAAACAATACGGTCTGCCCGTCGCCCCCATCGCCAGCCT
GAACGATTTGTTTATTCTGTTGCAAAACAACCCCGAATTCGGACAGTTCCTCGAACCCGT
CCGAGCCTACCGTCGGCAGTACGGCGTAGAATAAAAACAAAGCATATGCCGTCCGAACCG
CCTTACGCCTCAGACGGCATCAAACCTGACACACACGAGGAAATACCATGCCCGCCTGTT
TCTGCCCCCACTGCAAAACCCGTCTCTGGGTCAAAGAAACCCAACTCAATGTCGCCCAAG
GCTTCGTCGTCTGCCAAAAATGCGAAGGACTGTTTAAAGCCAAAGACCATCTGGCAAGCA
CGAAAGAACCCATATTCAACGATTTGCCCGAGGCTGTTTCGGATGTCAAACTCGTTCACC
GTATCGGCACGCGCGCCATCGGCAAGAAACAGATTTCCCGTGACGAAATCGCCGGCATCC
TCAACGGCGGTACAACCCAGCCCGATATTCCGCCCGCCAACCGCCGCCACCCCTGCTGCCG
CACCGCAGGTTACCGTACCGCCCGCGCCGCCCGCCCGTCAGGATGGGGTTCAACTGGACGA
TTGCAACCCTGTTTGCCCTTATCGTCCTCATTATGCAGCTTTCCTACCTCGTCATCCTAT
GAGCGCGCCCGACCTCTTTGTCGCCCACTTCCGCGAAGCCGTCCCCTACATCCGCCAAAT
```

Appendix A   -441-

```
GCGCGGCAAAACGCTGGTCGCCGGCATAGACGACCGCCTGCTCGAAGGTGATACCTTAAA
CAAGCTCGCCGCCGACATCGGGGCTGTTGTCGCAACTGGGCATCAGGCTCGTCCTCATCCA
CGGCGCGCGCCACTTCCTCGACCGCCACGCCGCCGCTCAAGGCCGCACGCCGCATTATTG
CCGGGGCTTGCGCGTTACCGACGAAACCTCGCTCGAACAGGCGCAGCAGTTTGCCGGCAC
CGTCCGCAGCCGTTTTGAAGCCGCATTGTGCGGCAGCGTTTCCGGGTTCGCGCGCGCGCC
TTCCGTCCCGCTCGTATCGGGCAACTTCCTGACCGCCCGTCCGATAGGTGTGATTGACGG
AACCGATATGGAATACGCGGGCGTTATCCGCAAAACCGACACCGCCGCCCTCCGTTTCCA
ACTCGACGCGGGCAATATCGTCTGGCTGCCGCCGCTCGGACATTCCTACAGCGGCAAGAC
CTTCTATCTCGATATGCTTCAAACCGCCGCCTCCGCCGCCGTCTCGCTTCAGGCCGAAAA
ACTCGTTTACCTGACCCTTTCAGACGGCATTTCCCGCCCCGACGGCACGCTCGCCGAAAC
CCTCTCGGCACAGGAAGCGCAATCGCTGGCGGAACACGCCGGCGGCGAAACGCGACGGCT
GATTTCGTCCGCCGTTGCCGCGCTCGAAGGCGGCGTGCATCGCGTCCAAATCCTCAACGG
AGCCGCCGACGGCAGCCTGCTGCAAGAACTCTTCACCCGCCAACGGCATCGGCACGTCCAT
TGCCAAAGAAGCCTTCGTCTCCATCCGGCAGGCGCACAGCGGCGACATCCCGCACATCGC
CGCCCTCATCCGCCCGCTGGAAGAACAGGGCATCCTGCTGCACCGCAGCCGCGAATACCT
CGAAAACCACATTTCCGAATTTTCCATCCTCGAACACGACGGCAACCTGTACGGTTGCGC
CGCCCTGAAAACCTTTGCCGAAGCCGATTGCGGCGAAATCGCCTGCCTTGCCGTCTCGCC
GCAGGCACAGGACGGCGGCTACGGCGAACGCCTGCTTGCCCACATTATCGATAAGGCGCG
CGGCATAGGCATAAGCAGGCTGTTCGCACTGTCCACAAATACCGGCGAATGGTTTGCCGA
ACGCGGCTTTCAGACGGCATCGGAAGACGAGTTGCCCGAAACGCGGCGCAAAGACTACCG
CAGCAACGGACGGAACTCGCATATTCTGGTACGTCGCCTGCACCGCTGACCGCAACGGAA
AGCCGCCGCAGAAATGCCGTCTGAACCCCGTTTCAGACGGCATTTCCCCGATTATATAGT
GGATTAAATTTAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGCAA
GGCGAGGCAACGCTGTACTGGTTTAAATTTAATCCACTATAAAGACCTGCCCAACCCTCA
AGGACCCCGATGAAATCCTACCCCGACCCCTACCGCCATTTTGAAAACCTCGATTCCGCC
GAAACGCAAAACTTCGCTGCTGAAGCGAATGCCGAAACGCGCGCGCGTTTTTTAGAAAAC
GACAAGGCGCGCGCGCTTTCAGACGGCATTTTGGCGCAGTTGCAGGACACGCGGCAGATT
CCGTTTTGTCAGGAACACCGCGCGCGGATGTACCATTTCCATCAGGACGGCGGGAGTATCCG
AAGGGCGTGTACCGCGTGTGTACCGCGGCGACGTATCGTTCCGGCTATCCCGAGTGGAAA
ATCCTGTTTTCGGTGGCGGATTTCGACGAATTGCTTGGCGACGATGTGTATTTGGGCGGC
GTGTCGCACTTGGTGGAACAGCCCAACCGCGCGTTGTTAACACTGAGCAAATTGGGCAGC
GATACGGCGTACACGCTGGAAGTGGATTTGGAAGCAGGGGAGTTGGTCGAAGGCGGTTTT
CACTTTCCGGCAGGCAAAAACCATGTGTCGTGGCGCGATGAAAACAGCGTGTGGGTGTGT
CCGGCTTGGAACGAACGCCAGTTGACCCAATCGGGCTATCCGCGCGAAGTATGGCTGGTG
GAACGCGGCAAGAGTTTCGAGGAAAGCCTGCCTGTGTATCAAATCGGCGAAGACGGCATG
ATGGTGAACGCGTGGCGTTATCTCGATCCGCAGGGTTCGCCGATTGATTTGATTGAAGCG
TCGGACGGTTTTTACACCAAAACCTATTTGCGGGTCTCAGCCGAAGGCGAGGCGAAACCG
TTAAACCTGCCCAACGATTGCGACGTGGTCGGCTATCTGGCGGGGCATCTTTTGCTGACG
CTGCGCAAGGACTGGAACCGCGCGAACCAAAGCTATCCGAGCGGCGCGCTGGTGGCGGTG
AAGCTGAATCGGGGCGAACTCGGGGCGGCGCAGCTTTTGTTTGCGCCCGATGAAACGCAG
GCATTGGAAAGCGTGGAAACGACCAAGCGTTTTGTGGTGGCGGAGCCTGTTGGAGAACGTA
CAAGGCCGTCTGAAAGCATGGCGGTTTGCCGACGGCAAATGGCAGGAAGTCGAATTGCCG
CGCCTGCCTTCGGGCGCGTTGGAAATGACCGACCAACCTTGGGGCGGCGACGTGGTTTAC
CTTGCCGCCAGCGATTTCACCACGCCGCTGACGCTGTTTGCGCTGGATTTGAACCGTGATG
GAACTGACCGTCATGCGCCGCCAGCCGCAGCAGTTTGATTCAGACGGCATTAACGTGCAG
CAGTTTTGGACGACTTCGGCTGACGGCGGAGCGCATTCCTTATTTCCACGTCGGCAAAAAC
GCCGCGCCCGACATGCCGACGCTGGTCTATGCCTACGGCGGTTTCGGCATTCCCGAATTG
CCGCATTATCTGGGCAGCATTGGCAAATATTGGCTGGAAGAGGGCAATGCCTTTGTATTG
GCGAACATCCGCGGCGGCGGCGAGTTCGGCCCCGCGCTGGCATCAGGCGGCGCAGGGAATC
AGCAAACATAAAAGCGTTGATGATTTATTGGCAGTCGTGCGCGATTTGTCCGAACGCGGT
ATCAGTTCGCCCGAACACATCGGCTTGCAGGGCGGCAGCAACGGCGGACTGATTACTGCC
GCCGCCTTCGTGCGCGAACCGCAAAGCATCGGCGCGCTGGTGTGCGAAGTGCCGCTGACC
GACATGATCCGTTATCCGCTGCTCTCCGCCGGTTCAAGCTGGACAGACGAATACGGCAAT
CCGCAAAAATACGAAGTCTGCAAACGCCGGTTGGGCGAATTGTCGCCGTATCACAATCTT
TCAGACGGCATCGATTATCCGCCCGCGCTCATTACCACCAGCCTGTCCGACGATCGCGTC
CATCCCGCCCACGCGCTCAAGTTCTACGCCAAACTGCGCGAAACCTCCGCGCAATCTTGG
CTCTACTCGCCTGACGGCGGCGGCCATACCGGCAACGGCACCCAACGCGAATCCGCCGAC
GAACTCGCCTGCGCTCTTGCTGTTTTTGAAAGAGTTTTTGGGCTAAGGGCGGGGGAGCGGC
ACTGCCGCCGCGAATGAAAAAAGGTCGTCTGAAACTGCTTTTTCAGACGACCTTTTTTAA
TGGTTGTTTCAAATCAAAATATCTATGCCGCCGGCCCCATCAGCACTTCTTCACATCCGA
AGGCAAAAATCCGTAATGCCGTCTGAACGCTTCGTTGAACGTCCCGCGTGGCGGTAGCC
GCAAAAGTGCATGGCGGCTTGGACGGTGCTGCCGGATTCGATGAGGGCGAGCGCGTGTTC
CAGCCGCAGGCGGCGCAGGCATCCGGCGACGGTTTCGCCGGTTTGCGCTTTGAAATAGCG
TTTCAGGTAGCATTCGTTCAGTCCGACGCGGCGGGCGATTTCGGCGATGGTCAGCGGACG
GGCGAATTCGTGTTGCAGGATGTCGGCGGCTTCGTCTATCGCCGACGGCGGTAACCGTT
GTCGTGGCGGCGGAAGGTGAAGCGCAATAATCGGGCGGAGAGTTCCAGCGCGGCGGCTTC
GTCGGCAAGCAGGCCGAAGCCGTCCGATTCGAACGGGCGTTGCAGCAGTGGGCAGGCCGC
CGCCGTCAGTGCCGCTGCGTTTTGCGCCAGCCGTTGCAGGGCGAATCGGCCTATTGTTTG
CGGCGAAAACAGGCCGTTCGTCCAGCAAGCCTTCGTCGTGCCAGCGGCGCAGTTTTTCCAG
CGAAAAATCCAAATGCAGCGCGCACATGCCGCTGTTGTCGGGCGACGAGCAGGGTTTCGGATAC
GTCCGCCAAATCGCCGCGTACCAGTCAGATTTCGCCGGCAGATGGGCGGTATTCCCTGCC
GCCCATTTGTAACCGGTTCTGCCCCGACACCATGACGAACAAGGCGCAGTTGTGGCTGAA
ATTGTGGATTTCGGTGGGAAACGCGCCCGTTCCGCCGCCGCGCATCCGCGACAAGGTGAT
GCCCGAATCGAAGCGGTTGATGCACATTTCCAGATGCAAACCGGGCTGTTTTGCCTGCGC
AATGAGCGCGCTGTCGGAACAGCCGTCCAACGCCCAGCCGGATTTATCGGAGCGGACATA
```

Appendix A   -442-

```
GGTTTGGTACTGGCGGTAGATGGCGGCGGTGTTCATGATTGGATAGGAACGAGTTGTCTA
ACAAATGAATTAAATAGGAATTATTACCAATAATCAAGCGCAGGGATTGGTTGAAACGGA
AAAGGTCGTCTGAAAGGGTGTTTCAGACGACCTTTTCCGTATCGGGAATTTGTTTTGCCG
TATCGGGAATTTTGCGTTTTGCGGCGTGGTTTCTGCAGGTTGTTTGCTTAATAATAAACA
TTCTTATTCGTATGCAAAGGAACCGCACACCGTGAAACCGCGTTTTTATTGGGCAGCCTG
CGCCGTCCTGCTGACCGCCTGTTCGCCCGAACCTGCCGCCGAAAAAACTGTATCCGCCGC
ATCCGCATCTGCCGCCACGCTGACCGTGCCGACCGCGCGGGGCGATGCCGTTGTGCCGAA
GAATCCCGAACGCGTCGCCGTGTACGACTGGGCGGCGTTGGATACGCTGACCGAATTGGG
CGTGAATGTGGGCGCAACCACCGCGCCGGTGCGCGTGGATTATTTGCAGCCTGCATTTGA
CAAGGCGGCAACGGTGGGGACGCTGTTCGAGCCCGATTACGAAGCCCTGCACCGCTACAA
TCCTCAGCTTGTCATTACCGGCGGGCCGGGCGCGGAAGCGTATGAACAGTTAGCGAAAAA
CGCGACCACCATAGATCTGACGGTGGACAACGGCAATATCCGCACCAGCGGCGAAAAGCA
GATGGAGACCTTGGCGCGGATTTTCGGCAAGGAAGCGCGCGCGGCCGGAATTGAAGGCGCA
GATTGACGCGCTGTTCGCCCAAACGCGCGAAGCCGCCAAAGGCAAAGGACGCGGGCTGGT
GCTGTCGGTTACGGGCAACAAGGTGTCCGCCTTCGGCACGCAGTCGCGCGGTTGGCAAGTTG
GATACACGGCGACATCGGCCTACCGCCTGTAGACGAATCTTTACGCAACGAGGGGCACGG
GCAGCCTGTTTCCTTCGAATACATCAAAGAGAAAAACCCCGATTGGATTTTCATCATCGA
CCGTACCGCCGCATCGGGCAGGAAGGGCCGGCGGCTGTCGAAGTATTGGATAACGCGCT
GGTACGCGGCACGAACGCTTGGAAGCGCAAGCAAATCATCGTCATGCCTGCCGCGAACTA
CATTGTCGCGGGCGGCGCGCGGCAGTTGATTCAGGCGGCGGAGCAGTTGAAGGCGGCGTT
TAAAAAGGCAGAACCCGTTGCGGCGGGGAAAAAGTAGGGAGTCGTCTGAAAACGGAGCTT
CCGAAGGAAGCGGGGGGTTTCTGCGAAGCTAAAGTGCGGTTTCAACGAATTGAAAAGCAG
CCTGTATGTTGAAAATACCGCTCAAGCAAACCTACGGTTTGCCGCCCTCTCCCTAGCCCT
CTCCCACAGGGAGAGGGGATTGGGTTGCAGGCTGCCTTTAAGGTTTAGGCAAATTTTTAA
CTTCGTTGAAGCTGCGATTTCAGAAGCTCCGTTTTAGCTTCGCAGAAACTCCGCTTCCTT
CGAAAGCTCCGTTTTCAGACGACCTTTTGGAGTACCGCAGGCACACGCATCGAACGGCTG
AATCAAAGATTCAGACCGATGGCAGTCCGCACCCGAGTTTATGCGGCAAACAGCGAGGCT
ACGGCAACCCGCCCCCTCTCCCTGTGGGAGAGGGTTAGGGAGAGGGCGGTAAGCCGCAGG
CTTACATCAAAGCCGATAACGCTTCCGTTACAACTCCGCCCACTGAAAGCAGCCTGCAAC
GAAGCCAAAACGACAAACCGCATCGTAAACCACCCAACCCATAGGAGAACCCCATGCAAA
ACGAAACCATCAACCTGAAACAGCACCTTGCCGCCATCAAAGAATACTGGCAGCCCGAAA
TCATCAACCGCCACGGGTTCCAATTCCACTTGGTCAAACTTTTGGGCGATTACGGCTGGC
ATACGCACGGATACAGCGACAAAGTGCTGTTTGCCGTGGAGGGCGACATGGCGGTGGACT
TCGCCGACGGCGGCAGCATGACGATACGCGAGGGCGAGATGGCGGTCGTGCCGAAGTCGG
TGTCGCACCGCCCGCGTTCGGAAAACGGCTGCTCGTTGGTGCTGATTGAGTTGTCCGACC
CGTCCGAGGCCGTCTGAAAACGAAGTTTCCGAAGGAAGCTGAGTTTCTGCGAAGCTAAAA
GCAGCCTGCACCTTCAATCAATATGCCGAAAATACAACCCCACCGCACACCAACACACAA
AGGAAATCCCATGACACGCTTCAAATATTCCCTGCTGTTTGCCGCCCTGTTGCCCGTGTA
CGCGCAGGCCGATGTTTCTGTTTCAGACGACCCCAAACCGCAGGAAAGCACTGAATTGCC
GACCATCACCGTTACCGCCGACCGCACCGCGAGTTCCAACGACGGCTACACTGTTTCCGG
CACGCACACCCCGCTCGGGCTGCCCATGACCCTGCGCGAAATCCCGCAGAGCGTCAGCGT
CATCACATCGCAACAAATGCGCGACCAAAACATCAAAACGCTCGACCGCGCCCTGTTGCA
GGCGACCGGCACCAGCCGCCAGATTTACGGCTCCGACCGCGCGGGCTACAACTACCTGTT
CGGCGCGGCAGCCGCATCGCCAACTACCAAATCAACGGCATCCCCGTTGCCGACGCGCT
GGCCGATACGGGCAATGCCAACACCGCCGCCTATGAGCGCGTAGAAGTCGTGCCGCGGCGT
GGCGGGGCTGCTGGACGGCACGGGCGAGCCTTCCGCCACCGTCAATCTGGTGCGCAAACG
CCTGACCCGCAAGCCATTGTTTGAAGTCCGCGCCGAAGCGGGCAACCGCAAACATTTCGG
GCTGGACGCGGACGTATCGGGCAGCCTGAACACCGAAGGCACGCTGCGCGGCCGCCTGGT
TTCCACCTTCGGACGCGGCGACTCGTGGCGGCGGCGCGAACGCAGCCGCGATGCCGAACT
CTACGGCATTTTGGAATACGACATCGCACCGCAAACCCGCGTCCACGCAGGCATGGACTA
CCAGCAGGCGAAAGAAACCGCCGACGCGCCGCTCAGCTACGCCGTGTACGACAGCCAAGG
TTATGCCACCGCCTTCGGCCCGAAAGACAACCCCGCCACAAATTGGGCGAACAGCCGCCA
CCGTGCGCTCAACCTGTTCGCCGGCATCGAACACCGCTTCAACCAAGACTGGAAACTCAA
AGCCGAATACGACTACACCCGCAGCCGCTTCCGCCAGCCCTACGGCGTAGCAGGCGTGCT
TTCCATCGACCACAACACCGCCGCCACCGACCTGATTCCCGGTTATTGGCACGCCGACCC
GCGCACCCACAGCGCCAGCGTGTCATTGATCGGCAAATACCGCCTGTTCGGCCGCGAACA
CGATTTAATCGCGGGTATCAACGGTTACAAATACGCCAGCAACAAATACGGCGAACGCAG
CATCATCCCCAACGCCATTCCCAACGCCTACGAATTTTCCCGCACGGGTGCCTACCCGCA
GCCTGCATCGTTTGCCCAAACCATCCCGCAATACGGCACCAGGCGGCAAATCGGCGGCTA
TCTCGCCACCCGTTTCCGCGCCGCCGACAACCTTTCGCTGATTTTGGGCGGACGATACAC
CCGTTACCGCACCGGCAGCTACGACAGCCGCACACAAGGCATGACCTATGTGTCCGCCAA
CCGTTTCACCCCCTACACAGGCATCGTGTTCGACCTGACCGGCAACCTGTCTCTTTACGG
CTCGTACAGCAGCCTGTTCGTCCCGCAATCGCAAAAAGACGAACACGGCAGCTACCTGAA
ACCCGTAACCGGCAACAATCTGGAAGCCGGCATCAAAGGCGAATGGCTTGAAGGCCGTCT
GAACGCATCCGCCGCCGTGTACCGCGCCCGTAAAAACAACCTCGCCACCGCAGCAGGACG
CGACCCGAGCGGCAACACCTACTACCGCGCCGCCAACCAAGCCAAAAACCCACGGCTGGGA
AATCGAAGTCGGCGGCCGCATCACGCCCGAATGGCAGATACAGGCAGGTTACAGCCAAAG
CAAAACCCGCGACCAAGACGGCAGCCGCCTGAACCCCGACAGCGTACCCGAACGCAGCTT
CAAACTCTTCACTGCCTACCACTTTGCCCCCGAAGCCCCCAGCGGCTGGACCATCGGCGC
AGGCGTGCGCTGGCAGAGCGAAACCCACACCCGACCCTGCCACGCTCCGCATCCCCAACCC
CGCCGCCAAAGCCCGCGCCGCCGACAACAGCCGCCAAAAAGCCTACGCCGTCGCCGACAT
CATGGCGCGTTACCGCTTCAATCCGCGCGCCGAACTGTCGCTGAACGTGGACAATCTGTT
CAACAAACACTACCGCACCCAGCCCGACCGCCACAGCTACGGCGCACTGCGGACAGTGAA
CGCGGCGTTTACCTATCGGTTTAAATAAGGTCGTCTGAAAACGGAGTTTCTGCGAAGCTA
TAGTGGATTAACAAAAACCAGTACGGTGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCT
```

Appendix A   -443-

```
CTAAGGTGCTCAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCG
TCGCCTTGTCCTGATTTTTGTTAATCCACTATAAAAGCAGCCTGCACATTGAAAATGCCG
CCCAAGCAAACTTTCAGTTTGCCCGCCTCGTCCTAGCCCTCTCCCACGGGAGAGGGGATT
GGGGTGCAGGCTGCCTTTAAGGTTCAGGCAAATTTTAACTTCGTTGATACCGCGCTTTAG
CTTCGCAGAAGCTGCACTTTCAGACGACCTTTTGGAACACCACAGGTACACGCATTTAAG
GAATGCCGTCTGAAATGCCTGCCTCAATAACGCATCATGTTGCCGTCAATCTCGGCCGCC
CATGCATCGATGCCGCCCTGAAGGTTGTACAGGTTTTCAAAACCCGCGTCCGCCAAATAC
ATCGCCGTATGCAGGCTGCGGATACCGTGGTGGCAATACACCACAAGCGGCACATCATCC
GGCAGCTCGTTCTGCCGCAGCGGAATCAGATTCATCGGGATATGCAGCGCATTTGGCAGC
GAACAAACCGCCGTTTCTTCATCCGTACGCACGTCCAACAAACAAAACATCCGCCCTTCG
TCCATCCACGCTTTCAATTCCGCGGGCCCAAGTTGCACAATATCCATCGCACCCCCCAAA
AAAAACCAAGCAAAATGCCGTCTGAAGCCCCAAACCCGCTTTCAGACGGCATGACCTGTC
AACATCTTAAAAATCGAAACCGCCAAACGGATCGGCATCCTTATCATCCAAATGCGCCAC
CAAGGTATCGAACAGCACCTTCTCTTCAAACACATCGCCCCTGCGCGTAATCAAAAGCGC
GCGGTTGAACAGGCTTGCGACCTACGATAACCACCATGCGTCCGCCATCTTTCAACTGTTC
TTTCAACACTTCAGGCACAAGGTTTACCGCACCGCCGACATAAACCGCATCAAACGGCGC
ACCTGCGGAAAGTTCGGTCAACCCGTTGTTTTGCACATAATCGATATTGTCCAAACCCAA
GCCGTCCAACACCGCTTTGGCGCGGTTTTGCTGTTCGAAATCGATGTCGTCCGACACCAC
ACGACCAGCCAATTTTGCCAACAGCGCGGTCGCATAGCCCGAACCCGTGCCGATTTCCAA
AACCGTATCGTTTTTCGTCAGCTTCAAGCCCTGCGCCAGCCGCGCCACGACTTTCGGCTC
GAGCATCTTATGACCGTTGGCAAGCGGCAGCGCCATATCCGCATACGCCAAACCCTGCAA
GTCCTCATCGACAAAAAGCTCGCGCGGAATCTCCGCCAAAGCGTCCAACACATCAAAATC
CAATACATCCCACGGACGGATTTGCTGTTCGACCATATTGAACCGCGCTTTTTCAAAATC
CATTTAGTGCTCCGTCAAATAATTGTTCCAACAATGGCAGGCATTATAAAACCACACTCC
CGCCGCGCCAACTTCGGCACGCGCCGACAGCCCGTTTTGTCAGTCTCAAACCGCCTGACG
CGAAGCCTCAAACCGCTTCTCCAAAATCTTCGCCAGTTCGCCCAAATACAAAGCATCCGT
CTCATCAAACTGCGCCAAATGTTCGCTGTCCGCGTCCAACACGCCGATACAGCGGCCGTC
TGAAAACAGCGGCACGACAATCTCCGAACGTGACAAAGACGAACAGGCAATATGGTCGGG
ATGCGCGTTGACATCCTTAACAACCACCGTTTCACCCTTCGCCCAAGCCTGACCGCCACAC
CCCGCGACCGAACGGAATCCGCGTACACGCCAAAGGCCCCTGAAACGGTGCCAAAACCAA
TTCGTCCGAACGCGTATCGACCAAATAAAAACCCACCCAAAACCAACCGAACGCCTCCTT
CAAAACCGCCGCCGTGTTCGCCAAATTCGCCACCCAATCCGCCTCGTCAGCCACCACAGA
CTCAATCTGCGGCAACACCTCCCGATAAAGCGCGGCCTTGTCCGAAGCCGAAAAATGAAG
CGGCGTGCATCACATCTCCTATAGTTGCATACATATCAGGCGGCCATTATAAAACGACGTG
CCCGAAACAACATTCCAAACCGCCCGGCCGGCCGCTTCAAGTTGCGAACCCGCCGCATAT
CCACTAAACTTCACGTTGCACCGCGCCACACGCGGCAGACAAAAAAACACGACACGGAGC
AAAAAAGATGTATCGCCAAATCGGAATGTGGGATCAAAAATGGGTCATCGGCAACTGGAA
AATGAACGGCCGGCTCCAAAACAACAACGCACTGATGCACCGCTTCCGCATCCACCCCAC
CGCCGAACGCGTCCTCATCGGACTCGCCGCCCCGACCGTTTACCTGCTGCAACTGCCACAA
CGCCATGCAAATCGTTTTAAACAACCGCATCCTCACCTGCGCCCAAGACGTGAGCCGCTT
CCCCAATAACGGCGCGTACACCGGCGAAGTGTCCGCCGAAATGCTCGCCGACACCGGCAC
AGACATCGTCCTCATCGGACACTCCGAACGCAGCCTTTATTTCGGCGAAAAAAAACGAAAT
CCAACGCCGCAAAATGGAAAACGTCCTCAACGTCGGACTCATCCCGTTATTGTGCGTCGG
CGAAAGCCTCGAAGAGCGCGAAGCCGGCAAAGAACACGAAGTCATCGCCCATCAGCTTTC
CATCCTGCAAGGGCTGGATACCAAAAACATCGCCGTCGCCTACGAACCCGTCTGGGCGAT
CGGCACCGGCAAAGTCGCCACCGTCGAACAGATTGCCGATATGCACGCATTCATCTACAA
AGAAATCTTGTCTTTGTGCGGAAGCGATGTTAAAATCCGCGTCCTTTACGGCGGAAGTGT
GAAAGCGGACAACGCGGCCGACATCTTCGCAGTACCTTATGTGGACGGCGCACTCGTCGG
CGGCGCGTCATTGTCGTACGACTCCTTTACCGCCATCATCAGTGCCGCACAAAATGCGTA
GAAAAATATGGAAGCCTTCAAAACCCTAATTTGGATTGTTAATATAATTTCCGCTTTGGC
CGTCATCGTGTTAGTATTGCTCCAACACGGCAAAGGCGCGGATGCCGGCGCGACTTTCGG
ATCGGGAAGCGGCAGCGCGCAAGGCGTATTCGGCTCTGCCGGCAACGCTAACTTCCTCAG
CCGCTCGACCGCCGTTGCAGCAACATTTTTCTTTGCAACCTGCATGGCTATGGTGTATAT
TCACACCCACACGACAAAACACGGTTTGGACTTCAGCAACGTACAACAAACTCAGCAAGC
ACCCAAACCCGTAAGCAATACCGAACCTTCTGCCCCTGTTCCTCAGCAGCAGAAATAACA
GTTTTTTCAAATGCCGACATGGTGAAATTGGTAGACACGCTATCTTGAGGGGGTAGTGGCC
GTAGGCTGTGCGAGTTCAAATCTCGCTGTCGGCACCAACACACAAAAACGCCTGAAAATT
TCAGGCGTTTTTTGTTCAATCCCATCCAACGCTGTCAACCAATTCCAATCAATACAAGGA
TTTCAGGCTGATTGTTATCCTGCCGTCCCCCTTCCTGACAGTGCAATCCCGTCCAATCCG
CCCTAATTGAAGTAACCTAAAATTTACGGTATCTTTTGCGGTATCTGAAAAATACCTCGA
AAAAATACCGCAAAATAAAGCTGAACGACCGCCAAATCAGGAATGCCAAGCGGCAAAAGA
GCTTGCGGGGAATACTGCCAAGACGTAGGGAACAAGGGGGAAACCGTCCAAGATGCAGGG
CGGTTTTTTTTGGGTTTTTGGAAAAAACCTATACTAGGAAGCGATACCCTTAGTTGTTAC
CTTGTTACCGGGGAAAAGTTAGATAAATAAGCATATGAAATATAGTGAATTAAATTTAAA
TCAGGACAAGGCGGCGAGCGCGCAGACAGTACAAATAGTACGGGCAAGGCGAGCCAACGCTG
TACCGGTTTAAATTTAATTCACTATAAAATAAGAAAAAGATAAAAAAATTGGTAACAAATG
CGGTAACAAATGGTAACGAATCGGTAACAACTTTTGGGGTTTTCCGGTTTTTCACCGTCT
TGGCAGTGGGAGCGTAGCGGAATGAAAAGCCAAAACGCACGGAACCGCGCCTATTTTGAG
CAGGAATGGCGGTTAAACCGCTTGGTTATATACGGGGAATAGGAAGACAGCGAAACGCGC
TAAAAACGCAATTTGAGCCATTAAAAGCGATTGATTAAAAAAATAATCAGGTTAGCCGCC
AGTGTTTCAGGCGGCATAAACGGAGAAATTGCGGGGCATAAAAAAGGCAGCTTGCCGTGT
TGTCTGTCTCTGGTATAATTCCAAGTATCACTAATCAACGGCTACACAATGCGGATATTC
AAAAACCAATGGATAGTGAAATTTGCCAAGAAGCACAAAATCAACGATTCCGAGCTGCTG
GAAGCGGTAGAGCGGGCGGATAACGGGCTGATAGACGCAGATTTAGGCGGCGGTGTGATT
AAGCAGCGCATAGCAAGGCAAGGACAAGGCAGAAGCGGCGGTTATCGCAGTCTGATACTG
```

Appendix A   -444-

```
TTCAAACAGGCAGACAAGGCATTTTTTGTTTACGCCTTTGCCAAGAACGACAGGGAAAAC
ATTTCGGATAAAGAACTTGACGTTTACCGAAAAGCCGCCGCATATTATCTGAAATACACG
CGGGCAGAGCTGGCGGCTTTGAAAGAAGACGGCATTATCACGGAGATAGAATCATGAAAT
ACAAAAACGAGGCATTAGCCGCCATTCATGAAATGATGGAAGGGGCTTACAACATCGGCG
CAATCGACAAAAAGACCATGCGCGACTTTGACAAGTCCTGCCTGACCGAAATCAAACCGT
TGAGCGGCGGAGACATCAAGGCAATCAGGGAGAAGGAGGCACTATCGCAAGCCGCTTTCG
CCATCTATCTCAACGTGGGAAAAAATCACGTTTCGGCTTGGGAGCGGGGCGTTAAAAAGC
CGAGCGGCGGCGGCGTTGAAGCTGCTGACCATCGTCAAAAACAAGGGCATCGAAGCCATTG
CGTAGCCGACTTGGCAAACGGCAAAATCAGCAAGTTCACAATAGACGCGCTGCTGAATAT
GCCTGCCAAGACAGGCAAGACCGCCGAACTGAATATCAGGGCGTAGCCGCATAAATGCCC
GACCGCATCAAACCAAGCCGAAACGGCGGCGGTGCAGACGACATAGCCCGACAGCAAGGC
ACGGCGCAGACGGGCGCGAAACCCGAAACATCACCGACCGCGAGGTACGGGGATTTTTTG
CGCCCGTTGCAGGGGGGGATTGGATTTAAGCGGCGCGGGCTTGAAGGCAAAACGGGTGGG
GCACAGAACTGTTTAAATGCAGTCTGAATCTCAAACGATTTCAGACGGCATTTTGAAACA
ATGGCTCAAATTCTCGATCCCCTTCCCTTAACGCCGACGTTTTTTATTAACGCGCCCCTT
ATTTCTGACACTTTGCTCATAAACCGGCATAACGGTCGGCAACAACCGTTTTAGATTTTC
TATACGGGCATTGTTTGTCGGATGAGTAGAGGTAATAGCATAAATAAAGCCGTTTTGGTC
GTTTTCCTGATTCATTTTTTCCCAAACCCTGACAGCGGCCGCGGATGATAGCCTGCCTG
CGCCATCAACATCATTCCCCCCTCATCGGCTTCTTCTTCCAAGCTGCGGCTATAAGGCAA
GGTAAGACCGTACGTCCCCAAAATATCCATACCCAATCCGACCAATTCCGGATTAGTATC
CGGTTTTTTGTCTAATATAATCTGCGTGCCTATCTGCGCCGCCGTATTGGTCAAGATTTG
CTGCCCGACCTTATTTTTACCGTGTTCATGCAGGGCGTGCGTCATTTCATGCCCCATAAT
GGCGGCAATTTCGTCATCGGTCAGCTTGAGTTTGTCGACTATCCCCGTATAAAACGCCAT
TTTTCCACCGGGCATTGCCCACGCGTTCAGCTCATCGTTTTTGAAAACCGTCATTTTCCA
GTCAAACTTATGGCTGGTATTATTTGCCGCATCGGCATAAGGCAGCATACGTCGAAATAC
TGCCTGCACCCTGCGGGCTGTTCTGGATGTGGTATCGACATTGCCGGCAGACTTGTTTAA
CTCAACCGTTTTCATATAATCTTTGGCAGCCGCAGCGTTCATTGTGGCGGAATCATGACC
GTAAACATCAGCAACGACCGCACAAGCCCCCAATACCGAGATTACTGCCGACAGGCAGAG
TATCCGTTTAAAGGAAGGAAGGAAGGAAATTTCATATTTAGGTTTACTCCTTAAAAAATT
AAATTTCAAAAAAATGCCGTCTGAATCCAAAACGGATTTCGGACGGCATCTTAACATTGT
TTAATGTTTTTAAAAAGATTTACACCACGATGTTCTCCAGTCTGCCCGGTACGGCGATGA
TTTTCTTGGCAGGCTTGCCTTCTATGAATTTCACCGCGCCTTCAGCGGCGTATTCGGCAG
CTTCTTCAGCCGGTTTGTCGAAATCACGCATAAATTGCCAATAATTCTCCAACTTTTTTA
CGGCTGCTGCTGCCTTTTGCGGCAATATTGCGCTGAACTTCAACTGTTTTCAAAATGGCA
GAAGAATAAATATCCCTTGTGAATTCAGTATCATGATTTGAAATCAAAATACCTTGGGAG
TTGGGCGCAATTTATTGATTTTTTGTAAAGTCCGCGACCAATGAATTCGATCGTATTTTG
GTCGCGCAGAATTTGCAACTGTTGGCGGATTTTGTCTCTGATATGGTTGTTTGGGGAAA
TTGGATGGATAGTTTGTTTTCAAATTCATACATTTGCGACAATGTGAATTCTTCGGGGAG
TTGGTCGATACATTTCATAACAGCCAGAAGCCAGCCTTTGCGCTCCGCATTTTGGTTGCG
TAAAAACAAATTGGATTGCCATTTTTTCAGAACGGTTTCGGGTTCGATAATGCGGGAATT
GTCTATTAAGAATATTTTGCCGCTTTCAGGCAAAGGGGCGAGATTGATAGAACACATAAT
GTGGTTCGGCCGGTTTTTAATGCCTTTATTTCTGGGAATAATCATATCCGGCGTGATGAA
ATGTTTGGGTACAAGCACCAATTGCCGTATGGAGTAATCCGCTTTTTTATATGCAAGAAA
GAAAAAGTTGGGGTTGGTATCTGACCGGATGCGCTCCAACATGGTGTGATATGCACCGTC
AGGCACGCTGTTGCCTATGGTTTTTTGATTTTTACTCTTTAATTCATATTGCTCGTGGCA
ATTTGGGCAAAAGAGGTCTGCAACAGGTTTGTTATTGGCAAATCTCTGCATCGGCTTGCT
TCCGCAACAGGGGCAGTAGCCGTTTTTTTCCAACCAAGCCTCGCTCATTACACGGATTTT
ATGGGTTGCTTTATTTTGTTGCTTTCCCAATTCGGTATCGAAAAATAAATTCATGTTTTG
GATTTTGAGATTTCAGTTATTCGGGGGTTCGTCATGCAGACAAACAATTCCACCTTAAAAA
GGCCGTCTGAAACCCTGTTTCCAAGTTTCAGACGGCCTTTATCCGTGTGGCTAAACCTTA
AAAGCGGTTAGACGACGATGTTCACCAGTCTGCCCGGTACGACGATGATTTTCTTCGCCG
GTTTGCCTTCCATGAATTTCACCGCGCCTTCGGTGGCGAGTGCGGCGGCTTCGAGGTCGG
CTTTGGATGCGTCGGCGGCAACAGTGATTTTGCCGCGCAGTTTGCCGTTGACTTGAACCA
TCACTTCGATTTCGGATTTGACCAAGGCGGCTTCGTCGACTGTCGGCCAGCCTGCTTCCC
ACAGTTTCGCGCCGTTCAATTCGCTCCACAGGGTTTCGCAGGTGTGCGGCACGATGGGCC
ACAACAGGCGTACGGCGGTTTCCAATACTTCTTGGGCGACGGCGCGTCCTTGTTCGCCGC
CGGTGTCGGTTTTGTCGTATTGGTTGAGCAATTCCATCACGGCGGCGATGGCGGTGTTGA
ACTGCTGGCGGCGGCCGTAGTCGTCGCTGACTTTGGCAGTGGTCGCGTGCAGTTTGTGGC
GCAGGTCTTTGAGTTCTTTAGACAAACCGTCTTGGCTGCCTGCGAACGCTTTGACCGCTT
CGCCTTGCTTCAAGTATTCGTAAACGGTACGCCACAGGCGGCGCAGGAAGCGGTGTGCGC
CTTCGACGCCGCTGTCGCTCCATTCGAGGGACTGTTCGGGCGGTGCGGCGAACATCATAA
ACAGGCGGGCGGTGTCCGCGCCGTAGGCGTTAATCAGTTCTTGCGGATCGACGCCGTTGT
TTTTGGACTTGGACATTTTTTCCGTGCCGCTGATGACGACGGGCAGCCCGTCGGCTTTGA
GGACGGCGGAAATGGGGCGGCCTTTGTCGTCGAACGTCAGCTCGACATCGGCGGGGTTGA
TCCAATCTTTGCCGCCTTTGTCGTTTTCGCGGTAGTAGGTTTCGCAAACGACCATGCCTT
GCGTCAGCAGGCGTTCAAACGGTTCGTCAACATTGACTAGACCTTCGTCGCGCATCAGTT
TGGTGAAGAAACGCGCGTACAAGAGGTGCAAAATCGCGTGTTCGATGCCGCCGATGTATT
GGTCGACCGCGCCCCAGTATTTCGCGGCGGCAGGATCGACCATGCCGTCTGAAAATTTTG
GCGACATGTAGCGGAAGAAATACCAGCTCGATTCCATGAAGGTGTCCATGGTGTCGGTTT
CGCGTTTCGCCGCGCCGCCGCAGCATGGGCAGGCAGTTTCGTAAAACTCGGGCATTTTTG
CCAGCGGCGAACCCATGCCGTCGGGTACGACGTTTTCAGGCAAAACGACCGGCAATTGGT
CGGCAGGGACGGGTACGTCGCCGCATTGTTCGCAATGGACGATGGGAATCGGGCAGCCCC
AGTAGCCGTTGGCGCCGAAATGCCCCAGTCGCGCAGGCGGTATTGGGTTTTCGGTTCGCCCG
CGCCTTGGCTTTGCAGCTTGGCGGCGACGGCGTCGAATGCCGTCTGAAAATCCAAGCCGT
CCAAGTCGCCGCTGTTGACCAATACGCCGTTTTCTTTGTCGCCGTACCATTCTTGCCATT
```

Appendix A   -445-

```
GGTTTTCGTCAAATGCGTTGTCGCCGACGGCAATGACTTGTTTTTTCGGCAGATTGTATT
TGGTGGCGAACTCAAAATCGCGTTCGTCGTGCGCCGGAACCGCCATCACCGCGCCGTCGC
CGTAGCCCCACAATACATAGTTGGCAATCCACACTTCCAGCTTGTCGCCGTTGAGCGGGT
TGACGACGTAGCGGCCGGTCGGCACGCCTTTTTTCTCCATCGTCGCCATATCGGCTTCGG
CAACCGAACCGGCTTTGCATTCGGCAATAAATGCCTGCAATTCGGGTTTGTCGGCGGCTG
CGGCGGCTGCCAGCGGATGCTCGGCGGCAACGGCAACATAAGTCGCACCCATCAGCGTGT
CGGGGCGGGTGGTATAAACTTGCAGGAATTTCGCGTAATCGCCTTCCAAGCCTTGTTTGC
TGTCGTCTGAAACGGCGAAGCGCACGGTCATACCGCGCGATTTGCCGATCCAGTTGCGCT
GCATGGTTTTGACTTGTTCCGGCCAGTGTTCCAGCTTGTCCAAGTCGTTGAGCAGCTCTT
CGGCGTAATCCGTGATTTTGAAGTAATACATCGGGATTTCGCGTTTTTCGATCAATGCGC
CGGAACGCCAGCCGCGTCCGTCGATGACTTGCTCGTTGGCAAGGACGGTTTGGTCGACAG
GGTCCCAGTTTACCGTGCCGTTTTTGCGATAAACGATGCCTTTTTCAAACAGCTTGGTAA
ACAGCCATTGTTCCCAGCGGTAGTATTCGGGTTTGCAGGTTGCGGTTTCGCGCGCCCAGT
CAATCGCAAAACCTAGGCTTTTGAGCTGGGTTTTCATGTATTCGATGTTATCGTACGTCC
AAGCGGCAGGGGCGACGTTGTTTTTCATCGCCGCGTTTTCCGCCGGCATGCCGAACGCGT
CCCAACCCATAGGCTGCATGACGTTGAAGCCGTTTAAAAGTTTGAAGCGGCTCAATACAT
CGCCGATGGTGTAGTTGCGCACATGCCCCATGTGCAGCTTGCCGCTGGGATAGGGGAACA
TGGAGAGGCAATAATATTTGGGTTTGGAAGCGTCTTCGGCAGCGTTGAAAATACGGGCGT
CGTCCCATTTTTTCTGCGCCGCAGGCTCAATGGCGGCGGGCCGGTATTGTTCTTGCATAG
TCATTCTGTTTTCGCTTAAAAACGTTGGAAAAATAAAGTCGGCATCAATTATAACAGGTT
GCCGGAAGCGGCGAATCGGCAGATTGCCGGCAGGATGCGTAAATTCGCACGCGCATTATT
CCGTATGCCGTACAAATACACCGCGTTTATTGATACGCACGTTTTTTATGCTAATATTAC
AAACCAAATCAAATGTTTAAAACTCTCCTGATGCGGCTCTTCCGAACAAAAGGCAGACG
GGCATCGGGTAAAAGAGGATTCTGCATATGAAAATCAAACAAATCGTCAAACCGGGCTTG
GCAGTATTGGCGGCGGGCGTTCTGTCTGCCTGCGCAACCAAAAGCAACGTCAAAGCCGAC
GGCACGACCGACAATCCGGTTTTCCCGAAACCCTATTCCGTAACGCTCGACAACAAGCGC
GGCACATTCCCGACTTATGACGAACTGGATCAGATGCGCCCCGGCCTGACCAAAGACGAC
ATCTACAAAATCCTGGGCCGCCCGCATTACGACGAAAGTATGTACGGCGTGCGCGAATGG
GATTACCTGTTCCACTTCCATACCCGGGCGTAGGTATCGACCCTGAAAACACTTCCGGC
GTAGAAGATGTTACTACCTGCCAATACAAAGTGATTTTCGATAAAGACAAATTTGCCCGC
AGCTTCTACTGGAACCCCGTCTTCCCGAAAGATGCCGCCTGTCCGCCGCCCGCACCCAAA
GCCGAGCCGCAAGTCATCATCCGCGAAATCGTGCCGGCAAAACCGAAACGTATCCGCCAA
TAATCCGACATGCCGTTCCGCCTGTTTTTAGGGATATTATGCGGCCTGTCAATGGTTGCC
CCCGTATATGCACAGGGGCAGCCGGATACGGTCGGCGACTTTATCCAAAAGAAAAAAGTC
ATCGTCGATACATCCAAAGCGGAACTCTGTTTCGCTGACGACCGTCAGTGCCACCCCGTC
CTCATCGGTGTTGCCCACGCCCAAGGGGACGTTCGGGCTGACGCTGAACAGTACCGACAAG
CCCGGATACGGCGGCGAAGTCATCGGTTTCAAGCAGGAGGGTGATTTTCTTTTCGCCCTG
CACCGCGTTTGGAATCAGATACCGTCGGAAAGGCGGAACGAACGCATCGCCTCCCCGTCC
GTGTCCGACAGGATTATGACCAACGGCTGCATCAACGTCAGCGATGCGGTGTACGAAAAA
CTGCGTCATTATTTTGTGTTGGAAGTGATTTGAAACAGACGGATACCGCACGCGCCGGTA
TCTGTTTTCACATTGCCCCGATGCCTGAAACAGACTGTCCGCCACGTCATGCCGTCTGAA
ACCGGCGCAGATGCCGCCAAGCCTTCAGACGGCATTGCCTGCCCGCTCCGACCGAACAAC
AACCATCTTTGGGAGAACCTTATGCCCGAACAAAACCGCATCCTCTGCCGCGAACTGAGC
TTGCTGGCATTCAACCGCCGCGTGTTGGCGCAGGCGGAAGACCAAAACGTCCCCCTTTTG
GAACGCCTGCGCTTCCTGTGCATCGTTTCATCCAACCTCGACGAGTTTTTCGAAGTCCGT
ATGGCGTGGCTGAAGCGCGAACACAAACGCTGCCCGCAGCGCAGGCTGGACAACGGCAAA
ATGCCGTCTGAAACCATCGCCGACGTTACCGAAGCGGCGCGCTCCCTGATACGGCACCAG
TACGACCTGTTCAACAACGTCCTTCAGCCCGAGCTGGCACAAGAAGGCATCCATTTTTAC
CGCCGCCGAAATTGGACAGACACACAGAAAAAATGGATTGAAGACTATTTCGACCGCGAA
TTGCTGCCGATCCTGACCCCCATCGGACTCGACCCTTCCCACCCCTTCCCGCGCCCGCTG
AACAAATCGCTCAACTTCGCCGTCGAACTCGACGGCACAGACGCGTTCGGCAGGCCTTCG
GGGATGGCGATTGTGCAGGCACCACGCATCCTGCCGCGCGTTGTTCCCCTGCCGTCCGAA
CTGTGTGGCGGCGGACACGGCTTCGTCTTCCTCTCCTCCATCCTGCACGCCCACGTCGGA
AAACTCTTCCCGGGCATGAACGTCAAAGGCTGCCACCAGTTCCGCCTGACGCGCGACAGC
GACTTGACCGTTGACGAAGAAGACCTGCAAAACCTCCGCGCCGATTCAAAACGAGTTG
CACGACCGCGAATACGGCGACGGCGTGCGGCTCGAAGTCGCCGACACCTGTCCCGCCTAC
ATCCGCGACTTTCTGCTCGCGCAATTCAAACTGACCGCCGCCGAACTCTATCAGGTCAAA
GGCCCGGTCAACCTCGTGCGCCTCAACGCCGTCCCCGACCTAGTCAACCGCCCCGATTTG
AAATTTCCCACACACACGCCGGGCAGACTGAAAGCCTTGGGCAAAACCGCGTCCATATTC
GATTTGGTGCGCCAATCGCCCATCCTGCTGCACCACCCTACCAATCGTTCGACCCCGCTT
GTCGAAATGATGCGCGAAGCCGCCGCCGACCCCGCCGTGCTTGCCGTCAAAATGACGATT
TACCGCACCGGCACGCGTTCCGAACTCGTCCGCGCCCTGATGAAGGCGGCACTCGCCGGC
AAACAAGTAACCGTCGTCGTCGAACTGATGGCGCGTTTTGACGAAGCCAACAACGTCAAC
TGGGCGAAGCAGCTCGAAGAGGCGGGCGCGCACGTCGTGTACGGCGTGTTCGGCTACAAA
GTCCACGCCAAAATGGCACTGGTCATCCGCCGCGAAGACGGCGTGCTCAAACGTTACGCC
CATCTCGGCACGGGCAACTACCACCAAGGCACATCGCGCATCTACACCGACTTCGGCCTC
ATTACCGCCGACGAACAAATCACCGCCGATGTGAACATATTGTTTATGGAAATCACAGGT
TTGGGCAAACCCGGGCGGCTGAACAAACTCTACCAAAGTCCGTTTACCCTGCACAAAATG
GTTATCGACCGCATCGCACGCGAAACCGAACACGCAAAAGCCGGCAAACCGGCGCGGATT
ACCGCCAAGATGAATTCGCTCATCGAACCGACCGTCATCGAAGCCCTGTATCGGGCAAGC
GCGGCAGGCGTACAAATCGATTTGATTGTGCGCGGGTATGTGCACCTTGCGCCCGGGTGTA
AAAGGCTTGTCCGAAAACATCCGCGTCCGCTCCATCGTCGGCAGGCAGCTCGAACACGCG
CGCGTGTATTACTTCCATAACAACGGCACGGACGATACCTTTATCTCCAGCGCGGATTGG
ATGGGGCGCAACTTCTTCCGCCGCATCGAAACCGCCACGCCGATTACCGCGCCCGAACTC
AAAAAGCGCGTTATACATGAAGGACTGACCATGGCACTGGACGACAACACCCACGCGTGG
```

```
CTGATGCAGCCCGACGGCGGCTATATCCGCGCCGCACCTGCCGAGGGCGAATCCGAAGCC
GACCTGCAAAACGATTTGTGGACACTGCTCGGAGGCTGACCCGCACCGCCCCAATCAAAA
ACCATGCCGTCTGAAACCTTTCCGTTTCAGACGGCATGGTTTTACAGCAATCTAAACAGG
GCGGACCGGAGTCAAAAACACACCTTCGCCATTCCTGCACAAGCACTTCCCCTATACGCT
CCCAACCCCAAGCCGCCGCATTCCAGACGGCATTATAGTGGATTAAATTTTAGGGGCTGT
ACTAGATTAGCAGATATGTTACCCTCGAAATATGAAGATAACGCACTGCAAATTAAAGAA
AAAAGTACAGAAAGAACTGCTCCGTTTTTTGTGCTGGAAGTTACCGCCCGTTCTGCCGCC
GATATTTTGGGTATCCATCCCAATTCGGCAGCACTGTTCTACCGTAAAATCCGCACGGTT
ATCAACCATCATTTAGCCTTGGCTGCCGATGAGGTTTTTGAGGGCCCTGTCGAGCCGGAC
GAAAGCGATTTCGGCGGACGGCGTAAAGGCAGACGTGGTCGCGGTGCGGCAGGAAAAGTG
GTTGTCTTCGGCATTCTGAAACGCAACGGACGGGGCTATACCGTTGTCGTAGATAATGCC
AAGTCTGAAACGTTACTCCCTGTCATCAAGAAGAAAATCATGCCGGACAGCATTGTTTAT
ACCGATAGTCTGAGCAGCTGCGACAAGTTGGACGTGAGCGGTTTTATCCATTACCGCATC
AACCATTCCAAGGAGTTTGCAGACCGTCAGAACCACATTAACGGCATTGAGAATTTTTGG
AATCAGGCAAAACGCGTCTTGCGAAAATTATAGTGGATTAACAAAAATCAGGACAAGGCG
ACGAAGCCGCAGACAGTACAAATAGTACGAAACCGATTCACTTGGTGCTTCAGCACCTTA
GAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTCATCCACT
ATACCTTTCCGACAGCCGAACAAAACCCCGAATCCGTCTGCACGGTTCGGGGTATATCTC
CAATACGGGCATCGTGTTCCGGAAAACCGTCAAATCCGCATCGGCATCACAATATATTTG
AAATTCGGATTGTTCGGCACGGTAAACAGCGTCGAGCGGTTGGCATCGCCGAAGGCAAGC
TGCATATCGTCGGAATGGATGTTGCGCAACACGTCCATCAGATAGCCGATATTGAAACCG
ACTTCGAGTTCGCCGCCCTGATAGGCGATTTCGATTTCTTCGCGCGCTTCTTCCTGCTCG
TTGTTGCTGCACAACGCTCAACAGGCCGGGTTGCAAAAACAATCGCCGCACCGCGGAAT
TTTTCATTGGCAAGAATCGATGCACGTTCCAACGCGCCCAACAATTCTGCCCTCGACAAC
ACGAAAATCTTGTCGTTGTCCAAAGGAATCACGCGGTTGAAATCGGGGAATTTGCCGTCG
ATGACCTTGCTGACGATGGTCGTGCCGTTGCATTGGAAACGCACCTGTTTGTCAGCAGC
TCGATTTGAATCGGATCGTCGGGGTTGTTCAACAGTTTGAACAGTTCCAGCACCGTTTTG
CGCGGCAAAATCACTTCGGCGCGCGGCAAATCCGCATCAATCGCGCAGGCTGCATAGGCA
AGGCGGTGTCCGTCGGTCGCCACAAGGCGCAACTGGCTGCCCTCAACCTGCATCAGCAGA
CCGTTGAGATAATAGCGGATGTCCTGCACCGCCATGCTGTACTGCACTTGCGACAGCATG
GTTTTGAAACGCTCCTGCTCCAGCGAGAAAGTCGCGCTGATGTCCTCGCCGACATTCATC
ATCGGAAAATCGGCGGCAGGCAGGGTCTGCAGGGCAAAACGCGATTTGCCCGCCTTCAGC
GTCAGACGGCTGTCGTCCCAATCCAGCGACACCAGCGCACCGGCAGGCAGCGCGCGCAAA
ATATCCTGAAATTTCTTGGCATTGGTGGTGATGCGGGAATCGCCCGCGCCGCCCCTCGGGA
CCCGCAGTGTCGATTTGGATTTCCAAATCGGTTGCCAAGAGTTTGGTCTGACCGCCTTTT
CCCTCAATCAGGACGTTGGACAGGATGGGCAGGGTGTGGCGGCGTTCGACGATGCCGGTA
ACGGCTTGCAACGGCTTGAGCAGGCTGTCGCGCTCGGCTTGTAAAATCAACATGTTCGCT
CCTTTAAATCGGTTTGTATAGTGGATTAAATTTAAATCAGGACAAGGCGACGAAGCCGCA
GACGGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTC
TCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTAAAGTTAATCCGCTATATCTTTAC
CCTTCGGACGGCATGGGCAATATCATGTCGTCTGAAAACGTTTTCCATCAGTTTTGAATC
AGAATCAGCAGCTTTTCATAATCCTGAGCCAATTCCGGATCTTCTTCGCGCAGTTTCGCC
ACTGCCCTGATGCCGTGCATAACGGTCGTATGGTCGCGCCCACCAAACGAATCGCCGATA
GACGGCAGGCTCAAAGTAGTCAGTTCTTTGGTCAGGCTCATCGCCACCTGGCGCGGACGG
GCAATGTTTCGTGTCCGTTTCTTACCGAGCACATCGCTGATTTTGATGCGGTAATATTTC
GCCACCGCATCGATGATGATGTCGGCGGTGATGACTTTGTGCTTCTCGGCAATAATGTCC
TGCAAAGCGGTACGCGCCAAATCGATGTCGATGACGGGACGGTTCATAAAGCGGCTGCTC
GCTCCGACACGATTAAACGCGCCTTCAAGCTCGCGCACGTTGGAACGGATCAGATTGGCA
ATGAACAGCGCGGCTTCGTCTTCGATACTGATGCCCGCCGCTTCCGCCTTTTTCTGCAAA
ATGGCGATGCGCATTTCCAATTCGGGCGGCTCGAGTTCCAAAGTCAGTCCCCATGAAAAA
CGGGATTTGAGGCGGTCGTCCATGCCTTCGATTTTCGCAGGCAACACATCGCAAGTGAGG
ATGAGCTGTTTTTTTCTCGTTGTGGAAATGGTTGTACAGATAGAAAAACTCTTCCATCGTA
CGGTCTTTGCCTTTGATGAACTGGATGTCGTCGATAATCAGCAGGTCGTATTGCTTGTAT
TGCTGCTTGAACACGTCGTAAGTGTTGTTGCGAACCGCCTTCATAAAGCGCGGATATAG
TCATCCGAATGCATATAGCGCACTTTGGCATCGGGACGGTTTTTCAGCAGCTCGTTGCCG
ACCGCCTGCACAAGGTGGGTTTTGCCCAAACCCGTGCTGCCATAGAGGAAGAACGGGTTG
TAACTCTGCCCCGGGCTTTCCGCAATCGCCTGCGCCGCAGCCGCCGCAAGGCGGTTGCCC
TTACCTTCTACCAACGTATCAAACGTGTAATCCGGAGACAGGTTGGTCTGCTCGTAACGC
GCCTCTTCCGCATCGCGCTGCACGTCCGTCCGTGCTTTGGCAACTGCCACCGATTCCGGC
CGGGAAGCAGACCCGGCAGCCTGACGCGGCTCGTGCGGCAGGTTTTTCATACGTTCCGCC
AAAATATCCGCCGCCGTTTTCGACGCAGCGGGTTTGACAGGCTCTTCAGACGGCAGCTCG
TCCAACAGAACCTCCTGCACGGGCATTCCCTCCGACACCGCATGCAAGGACGGCTCGGCA
GGTTCGACAGCACCTTCAACCGCCGCCATCTCATAACGCACGCCTTCTCCCGGTTTGAAT
ACGAAGGCGGAACGGCCGGCAGCCAACTCTTCCCTCACCGCTTCTATTTTTCCGGCAAAC
TGGCTCTTGAGCATATTGCAGGCAAACTGGTTCTTGCCGTACACCACCCATACGCCACCC
TCCTCACCAACGGTAAGGGGCGCAATCCATTGCGCAAACTGCCCTTGAGGCAACATATCG
TGAAGACGGCGGAGGCACAGCGGCCAAAACTCTGCTAATGTCATGGATAGGCTCGAATCG
GTAAAAATGAAATCGAAAACAAAGAAAATATAATATTTTCAAAAAGAAAACAAATCTGTT
GAACGCACATCGGTTCAAAACGCGACTGCCCGATTATACCGACTCACGAATATTTTATCC
ACAACCCGTGCAAAAATTTATCCACAGAAAGGCGGCGGAAATCCGCAGGCAATCGGGCAA
TCTTCCTGCAAAGTTTCTATATTGATTGACAAAAGCGGCAAATTGGAGTGTAATTCACGG
TTTAATTATCTACCCATTCTATTTTAGGAAACATCATGAAACGCACTTATCAACCTTCCG
TTACCAAACGCAAACGCACCCACGGCTTCCTGGTGCGCTCCAAAACGCGCGGCGGCCGCG
CAGTATTGGCCGCACGCCGTGCCAAAGGCCGCAAACGCCTGGCGGTATAATTTTGGACTA
CCGCTTCGGAAGGCAGTACCGCTTGTTGAAAACGGATGATTTTTCATCCGTTTTTGCATT
```

```
CAGAAACCGCCGCAGCCGCGACCTGCTGCAAGTTTCGCGCTCAAACGGCAACGGGCTGGG
CCATCCCCGCATCGGTCTGGTGGTCGGCAAAAAAACCGCCAAACGCGCCAACGAACGAAA
TTATATGAAGCGCGTTATCCGCGACTGGTTTAGATTGAACAAAAACCGGCTGCCGCCGCA
GGATTTCGTCGTGCGCGTCCACCGTAAATTCGACAGGGCTACCGCAAAACAGGCAAGGGC
GGAACTGGCACAACTCATGTTCGGCAACCCCGCAACCGGATGCAGGAAACAGGCATGATC
AGAACGGTACTCTGCAGGCAAGGTTCAGACGGCAACGGCTTTCCCATACAAGGAACATCC
CGATGAACTTCCTATTGTCCAAACTCCTGCTGGGACTGATACGGTTCTACCAATATTGCA
TCAGCCCGCTGATTCCGCCGCGCTGCCGTTATACGCCGACCTGTTCGCAATACGCGGTCG
AAGCGGTCAAAAAATACGGCGCATTCAAAGGCGGCCGGCTCGCCATCAAGCGCATTGCAC
GCTGCCACCCTTTCGGCGGACACGGACACGACCCCGTTCCCTGACCCGACGCAATATTCA
AATTGCACGCTTTCCTTTTATTTCCCATCGGTTTCTATATAATGCCGTCTGAAGCTTCGG
GCAGGCGGCACGACCGCCGGGTATGAAGCCCGCCCTTATTCCCCGTCTATCGGAACACGC
AACCTGCGGCATTTCCGACCATTCAGGAAACTCTTATGGATTTTAAAAGACTCACGGCGT
TTTTCGCCATCGCGCTGGTGATTATGATCGGCTGGGAAAAGATGTTCCCCACTCCGAAGC
CCGTCCCCGCGCCCCAACAGGCAGCACAACAACAGGCCGTAACCGCTTCCGCCGAAGCCG
CGCTCGCGCCCGCAACGCCGATTACCGTAACGACCGACACGGTTCAAGCCGTCATTGATG
AAAAAAAGCGGCGACCTGCGCCGGCTGACCCTGCTCAAATACAAAGCAACCGGCGACGAAA
ATAAAACCGTTCATCCTGTTTGGCGACGGCAAAGAATACACCTACGTCGCCCAATCCGAAC
TTTTGGACGCGCAGGGCAACAACATTCTAAAAGGCATCGGCTTTAGCGCACCGAAAAAAC
AGTACAGCTTGGAAGGCGACAAAGTTGAAGTCCGCCTGAGCGCGCCTGAAACACGCGGTC
TGAAAATCGACAAAGTTTATACTTTCACCAAAGGCAGCTATCTGGTCAACGTCCGCTTCG
ACATCGCCAACGGCAGCGGTCAAACCGCCAACCTGAGCGCGGACTACCGCATCGTCCGCG
ACCACAGCGAACCCGAGGGTCAAGGTTACTTTACCCACTCTTACGTCGGCCCTGTTGTTT
ATACCCCTGAAGGCAACTTCCAAAAAGTCAGCTTTTCCGACTTGGACGACGATGCCAAAT
CCGGCAAATCCGAGGCCGAATACATCCGCAAAACCCCGACCGGCTGGCTCGGCATGATTG
AACACCACTTCATGTCCACCTGGATTCTCCAACCTAAAGGCAGACAAAGCGTTTGCGCCG
CAGGCGAGTGCAACATCGACATCAAACGCCGCAACGACAAGCTGTACAGCACCAGCGTCA
GCGTGCCTTTAGCCGCCATCCAAAACGGCGCGAAAGCCGAAGCCTCCATCAACCTCTACG
CCGGCCCGCAGACCACATCCGTCATCGCAAACATCGCCGACAACCTGCAACTGGCCAAAG
ACTACGGCAAAGTACACTGGTTCGCCTCCCCGCTCTTCTGGCTCCTGAACCAACTGCACA
ACATCATCGGCAACTGGGGCTGGGCGATTATCGTTTTAACCATCATCGTCAAAGCCGTAC
TGTATCCATTGACCAACGCCTCTTACCGCTCTATGGCGAAAATGCGTGCCGCCGCCACCCA
AACTGCAAGCCATCAAAGAGAAATACGGCGACGACCGTATGGCGCAACAACAGGCGATGA
TGCAGCTTTACACAGACGAGAAAATCAACCCGCTGGGCGGCTGCCTATGCTGTTGC
AAATCCCCGTCTTCATCGGATTGTATTGGGCATTGTTCGCCTCCGTAGAATTGCGCCAGG
CACCTTGGCTGGGTTGGATTACCGACCTCAGCCGCGCCGACCCCTACTACATCCTGCCCA
TCATTATGGCGGCAACGATGTTCGCCCAAACTTATCTGAACCCGCCGCCGACCGACCCGA
TGCAGGCGAAAATGATGAAAATCATGCCGTTGGTTTTCTCCGTCATGTTCTTCTTCTTCC
CTGCCGGTCTGGTATTGTACTGGGTAGTCAACAACCTCCTGACCATCGCCCAGCAATGGC
ACATCAACCGCAGCATCGAAAAACAACGCGCCCAAGGCGAAGTCGTTTCCTAAATGCCGC
AGCATGAAAAATGCCGTCTGAAACCTGTTCAGACGGCATTTTTATTGCCCACCCCCTATC
GGGGCGGAAATCTTCAACCCGCATACATCACAAAAATCGTCGGGCGTTTTTTCAGATTGG
GCATTTCTTTTCTTTTTCGCCACTGCACGATTGTTTGACTGATGATTTCCTGTGTCGGCA
AGGTCAAATCCGTAGCCGTGCATAAACGCGTTTCAGGATGCAGGTTTTCCACCGCATCGG
CAAGCAGCGCATCATTGCGGTAAGGCGTTTCAATAAAAATCTGCGTCTCGCCGCCGCACTGGC
GCGAACGCTGTTCCAAAGCCCGAAAAGCCTGAATCCGCTCGTTTTTTTCAGACGGCAGAT
AGCCTTTAAACGCAAAACTCTGCCCGTTCGCACCCGAAGCCATCAAAGCCAGCAGCAGGC
TGGAAGGCCCGACCAGCGGACGCACTTCAAAACCGTGTTTATGCGCCAATGCCACCAAAT
TCGCACCCGGATCGGCCACAGCCGGGCAACCCGCCTCACTGACAATGCCCATACTGCGCC
CTTCTTGCAAAGGTTTCAGCAATTCCGGCAAAGTCTTCAAATCCGTATGTTCATTCAACG
TTTGCAGATTCAGCTCGCGGATAGGCGTAGTCACGCCCAAATGTTTCAAATGCGCACGCG
CCGTTTTTTTCCGCCTCCACGACAAAATCCGTCAGCCCGACAATCGCCTGTTGTTCATGCG
GCAACAGGCACGGCGTGTCAGGCGTACCCAAAGGCGTAGGAATCAAATACAAAACAGGAG
ACATCATTCCCTCACTCATCGGTTAAAAATGCCGTCTGAGCCTTTCAGACGGCATAAACG
GGCAGTTACAGAACCTCCACGCCCTCATTTTTCAAGAAATCGACCAGACGGAAAACCGGC
AAACCGATTAAAGCATTCGGATCGGTACTCTCAATCCTTTCAATCAGCAATGCACCCAAA
TCCTCACTCTTCAGCGCACACGAACAATAAACCGCATCAGGCTCGCGCTCCAAATAGCGG
AGGATATGCAACTCGTCCAACTGCCTCATCACGACCACCGTCTTATCGATATGCCGCCGC
ATCCTGCCCGTAACCGTATTCAACAGCACGATCGCGCTGTAAAACTCAATCTCCCTGCCG
CTCAAGTGCATCAGCATCTTTTGCGCATTGGCAAGGTTCATCGGCTTGCCCCACTGCCTG
CCGTCGCACCACGCCACCTGGTCCGCACCGACAATCAACGCCTCTGGGAAACGCCCGGTC
AACGACCGCGCCTTACCCTCGGCAAGGCGCAATGCCGTCTGAGGGGCGGATTCCCCCAAC
ATCGGCGTTTCGTCAAAATCGGGGGACGCCGCCTGAAAGGCAATGCCGAGCCTTTCCATC
TGTTCGCGGCGGAAAACCGAACTCGTACCCAAAATCAAAGGCAGTTCCAAACCCATCCCA
TCCTCCTTACCGTTGAAAACACGCCCGAAGGGGCAGTAAAATCGAGCCATGCGCCGAAAC
ACGGATACCCGCCTTCGGCGTACCGCAACATTTTTCTTAAAAATATTGACGTTAGAACAT
CTAAATTATATCATATCCCGTTTATGTCAGACCCTAATTTGATTGACTTGGAAATTTTTG
CCGCCGAAGGGCAGAACCTGCAAGGCAGTTTTCTGCTGGAAGAATTGGATGAACGCGTCA
GTTCGCACGATTATCCCGCCGACAGGCAGACCAAAATATCGTTTACACTGACCGGCGGTC
GCGACCGGCTGCAACGCGCCCTGTTCCTCGACCTGAACGTCAAAGCCGATATGCCCCTGATTT
GCCAGAGATGTATCAAACCCATGCCGTTCATGCTTGATGAAAGCAGCCGTATCGTCCTGT
TTTCCAACGAAGAGTCCTTGGACGAATCCATGCTTGCCGACGAAGAACTCGAAGGCATAC
TGATTGAAAAAGAACTCGACGTGCGCACATTGGTAGAAGACCAAATCCTGATGTCCCTGC
CCTTTTCGCCGCGACACGAAGACTGCGGCGACAATGGGACACTGGAAGAAGTCAATCGGG
ACAAACCCAACCCCTTTGCTGTTTTGGCAGGTTTGAAAAGCAATTGATTAGGACACAGTT
```

```
TATTTATCTAGGAGCTTGAAATGGCCGTTCAACAAAACAAAAAATCCCCTTCCAAACGCG
GTATGCACCGTTCGCACGACGCGCTGACCGCGCCTGCACTGTCTGTCGACAGCACAACCG
GCGAAGTACACCGCCCGCACCACATCTCCCCCAACGGTATGTACCGCGGCCGCAAAGTGG
TCAAAGCCAAAGGCGAATAATCCCTATTCGACTGACTGAAAAAGCCAGAACATTGCCATG
CAATTACTGGCTTTTTTTGCATTGGACGCACCATCCGTCCAAACTTTCGCCATACGTCAA
CACACAGGGGCAAAGCGTTCCGTATAATACCCCGTGAAAATATTCCAAAAGCCCCAACCA
CCAAGGAAATTCCGATGAAACAGAAAATCTGGTACACCTACGATGACATCCACCGCGTCA
TCAAAGCATTGGCAGAAAAAATCCGGAACGCCGACATCAAATACGATGCCATGATTGCCA
TCGGCGGCGGCGGCTTTATTCCGGCACGTATGCTGCGCTGTTTTCTGGAAATTCCGATTT
ATGCCGTAACCACCGCCTATTACGACAGCGACAACGAAGGACAGGTTACCGAAGAAGTCA
AAAAAGTCCAATGGCTCGACCCCGTTCCCGAAGCCCTGCGGGGCAAAAACGTACTCGTCG
TCGATGAAGTGGACGACAGCCGCGTAACCATGGAGTTCTGCCTGAAAGAACTGCTCAAGG
AAGACTTCGGTACGATCGGAGTCGCCGTACTGCACGAAAAAATCAAAGCCAAAGCAGGCA
AAATCCCCGAAGGCATTCCCTATTTCAGCGGCATCACCGTAGAAGACTGGTGGATCAACT
ATCCGTGGGACGCACTCGACATCGACGAACACAACCGCCTTGCCGAGGCCGGCCGAGGCT
GACCCTTTCAGACGGCATATTTTCCGAACCGATGCCGTCTGAAGCCCGCACGACCCCTGC
CGCAGACCGAAAACCTACCGGAGAAACCCTATGATTACATTGGCCGTAGATGCCATGGGC
GGCGACCAAGGACTTGCCGTTACCGTACCCGGCGCAACCGCATTCCTCCAAGCACACCCC
GATGTCCGCCTGATTATGACCGGCGACGAAACGCAACTGCGCCAAGCCCTGACCGCCGGCA
GGCGCACCGATGGAACGCATCGACATCTGCCATACCACCCAAGTCGTCGGCATGGACGAA
GCCCCGCAATCCGCCCTGAAAAACAAAAAAGACTCCTCCATGCGCGTCGCCATCAACCAG
GTTAAAGAAGGCAAAGCCCAAGCCGCCGTATCCGCAGGCAACACGGGTGCGCTCATGGCA
ACCGCACGTTTCGTCCTCAAAACCATTCCCGGCATCGAACGCCCCGCCATCGCCAAATTC
CTTCCTTCCGACACCGACCACGTTACCCTTGCACTCGACCTTGGCGCGAACGTCGACTGC
ACGTCCGAACAGCTCGCCCAATTTGCCGTTATCGGCAGCGAACTCGTCCACGCACTCCAT
CCTCAAAAAGGACAGCCGCGCGTCGGGCTGGTCAACGTCGGCACGGAAGACATCAAAGGT
ACGGACACCGTCAAACAAACCTACAAACTGCTGCAAAACAGCAAACTCAACTTTATCGGC
AACATCGAAAGCAACGGCATCCTCTACGGCGAAGCAGATGTCGTCGTCGCCGACGGCTTT
GTCGGCAACGTCATGCTCAAAACCATCGAAGGCGCGGTCAAATTCATGAGCGGAGCCATC
CGCCGCGAATTCCAAAGCAACCTGTTCAACAAACTTGCCGCCGTTGCCGCCCTACCCGCC
CTCAAAGGGCTGAAAAACAAACTCGACCCGCGCAAATTCAACGGGGCCATCCTGCTCGGG
CTGCGCGGCATCGTGATTAAAAGCCACGGCGGCACAGACGAAACCGGTTTCCGCTATGCC
CTCGAAGAAGCCTACCACGAAGCCAAGTCCGCCGGCCTTTCCAAAATCGAACAGGGCGTA
GCCGAACAACTCGCCGCACTCGAAACTGCCAAAGCCGTCCAAAACGAAAATGTCGGCGGT
CTGTAACACACACGATGCCGTCTGAACGCCCCGCCCCTTTCAGACGGCATCCGCCCGCA
CCAAACCTGCGGGCGCGGACGGCGATGCGCCTGTCCGGCACTTCCCAAATATCGCCTTGT
AAAATAAGGAGTATTTGAAAAATGAAGACATTAGAAAAACGGATGAAAGCTCTAGACAAA
CGGATTATGAAGTTCGGAAAATCCCTTGAAGGCAGGCTTGATGCCCGTCTGATTGAATCC
GCATTGGATTATATTCATTATTCGGAACGTTTTTTGGCTTTTGAAATCCTGTGTACTTAT
ATCGAAGATTTCGATGTCCGGCTGACGGAACAAGAATCCCGGGAAATTTCTTTTATCAAC
AAGGAATTTGAGATAGAAAGCACGTCCGATTAACCAATAAAGCCAATGGGTTGATAAACA
TGAAAACATCGACGGTCGTTTTTGGCGGATTTTTTATGGCAGACAACGGAGAGCGAATCC
AAATCCCCGTTTTGGAAAATCCTGACATTAGGGAAATCAATCACTTTTTTTCCGTATCAA
ATTTTGAGAAAAAAACCGGCGTCCTTGTTTTCAGAATCATCCCCGAGCCGGAATTGGCA
ATACCGAATTAACTGTCTATTTTAAAAAAGGATATTATAGTGGATTAACAAAAACCAGTA
CGGCGTTGCCTCGCCTTGCCGTACTGGTTTTTGTTAATCCACTATATCAGACGAAAACAA
ACACCCGCGCCAATAGCCTGACGGCAACCCGGCAATCAAAATGCCGTCTGAAGCAGCTTG
GGCTTTCAGACGGCATTTCCTTCGCTTAAAACAGCGTATCGGCAACCCCGCCCTGCCTGT
CCACGGCAATCTGCATCTGAAAACCATCTGTATCCCAAACCACACCCCCATCCCTGTTTC
CATCATGTGCACCCTGTCCGTATTGGGCAATCATCTGTTTTTCGCTTACAATAGCCGAAT
CTGAACCAACTCTCTAAAAAGGCCGTTCCCATGCAGTATGCAAAAATTTCCGGCACAGGC
AGCTATCTTCCCGCCAACCGCGTCAGCAATGACGACCTTGCCCAAAAGGTAGATACCTCT
GACGAGTGGATTACCGCGCGCACGGGCATCAAATTCCGCCATATTGCAGCCGAAAACGAA
AAAACCAGCGATCTTGCCGCCGAAGCGGCGCACCGCGCGCTGGATGCAGCCGGATTAGAC
AGCGGCGAAATCGATTTGATTATCGTGGCAACGGCAACGCCGGATATGCAGTTTCCGTCT
ACTGCGACCATCGTGCAACAAAAATTGGGCATCACCAACGGCTGCCCCGCGTTTGACGTA
CAGGCGGTGTGCGCCGGCTTTATGTACGCGCTGACCACGGCAAACGCCTACATTAAAAGC
GGTATGGCGAAAAACGCGCTGGTCATCGGCGCGGAAACCTTCAGCCGCATTGTAGACTGG
AACGACCGCACAACCTGCGTATTGTTCGGCGACGGCGCGGGCGCGGTGGTTTTAAGCGCG
TCGGCACGCCGGGCATCATCCACAGCAAACTCAAGGCCGACGGCAATTATCTGAAACTC
TTAAACGTCCCCGGGCAAATCGCCTGCGGCAAAGTTTCCGGTTCGCCGTACATTTCGATG
GACGGTCCCGGCGTGTTCAAGTTTGCCGTCAAAATGCTGTCCAAAATCGCCGATGACGTT
ATCGAAGAAGCAGGTTACACCGCCGCTCAAATCGACTGGATTGTTCCCCATCAGGCAAAC
CGCCGCATTATCGAATCGACCGCGAAACATTTAGGTTTGAGTATGGACAAAGTCGTCCTG
ACCGTCCAAGACCACGGCAACACATCCGCCGCATCCGCTGGCTTTGGATACGGGC
ATCCGCAGCGGACAAATCAAACGCGGTCAAAACCTGCTGCTCGAAGGCATCGGCGGCGGT
TTCGCGTGGGGCGCGGTGCTGTTGCAATATTGAACCCGATGCCGTCTGAAACAGGCTTTC
AGACGGCATTTCCCATATCATGAAGCGGCAGGCTTTCTTCAAACTGATGGCGTGTGCGGC
ATTTCTGTCTGCCGTTTCGCTGCGCCTCCCCGTATTGGGCGCGTGTTACGCAATATTGTC
CCTCTATGCGTTTGCACTTTACGGCATCGACAAACGGTGCGCCATACGGGGGCAACGCCG
CATTCCCGAACACCGCCTGCTGCTGCCTGCATTGCTCGGCGGCTGGGTGGGCGCGTATTT
CGGCAGCATGACATTCAAACATAAGACAGCGAAAAAGCGTTTTGTTGTGCTGTTCCGTCT
GACTGTTTCAGGTAATGTCTTGGCGACCCTCATCCTGATTTATAGTGGATTAAATTTAAA
CCAGTACGGCGTTGCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTT
GTCCTGATTTTTGTTAATCCACTATATTATTTTGTCCCGCCTGAATTTTTCGTAAAACTC
```

```
GGGCAGAATACCTGATTATCCAACCAAACAAAGGAATACTATGTCTTTTGCCTTCTTTTT
TCCCGGACAAGGTTCCCAAAGCCTCGGTATGATGAACGGCTTTGCCGAACACGCCATCGT
CAAAAACACCTTTGCCGAAGCCTCCGCCATATTGGGGCAGGACTTGTGGGCGATGATAAA
CGGCAGCGATGCCGAAATCATCGGTCAAACCGTCAACACCCAGCCCATTATGCTCGCCGC
CGGCGTTGCCGTTTACCGCGCCTATTTAGAAGCGGGCGGCAAAACGCCTGCCGCCGTTGC
CGGACACAGCCTCGGCGAATACACCGCACTCGTTGCCGCCGGCGCATTGAATTTTGCCGA
CGCGGTCAAACTCGTGCGCCTGCGCGCCGAACTGATGCAGTCCGCCGTACCGCAAGGCGT
GGGCGCAATGGCGGCGATTCTCGGCTTGGAAGATGAGCAGGTTAAAGCCATTTGTGCCGA
AGCCGCCCAAAGCGAAGTGGTCGAAGCCGTCAACTTCAACTCACCCGGACAAATCGTGAT
TGCAGGCAACGCCGCCGCCGTCGGACGCGCCATGGCTGCCGCCAAAGAAGCCGGTGCCAA
ACGCGCCCTGCCGCTGCCCGTGTCCGTACCTTCCCATTGCAGCCTGATGAAACCCGCCGC
CGACAAACTTGCCGAAGCCCTGAAAACCGTTGAAATCAAGCAGCCGCAAATCCGCGTTAT
CCACAACGCCGACGTTGCCGCCTACGATGATGCCGACAAAATCAAAGACGCGCTCGTCCG
CCAGCTTTACAGCCCCGTACGCTGGACGGAAACCGTCAACGCCCTCGTTTCAGACGGCAT
TGCCGAATCCGCCGAATGCGGCCCGGGCAAAGTGTTGGCGGGCTTGGCAAAACGCATCAA
CAAAGCCGCCGCGTGCAGCGCACTGACCGATGCCGGACAGGTTGCCGCCTTTATCGAAGC
GCACTGACTTCGTTCTGCAAAAAGCAGCCTGCCCTCTTCAGGCTGCTTTTCATGTCCGAA
CGACGGCAGCCCCATATTTACGCTATAATCCATCCCGACCAAACCACCGACAGCGGCTGC
CGTTGCAGTTCCCGCCCTACCGATATGATAGAAAAACTGACTTTCGGACTGTTTAAAAAA
GAAGACGCGCGCAGCTTTATGCGCCTGATGGCGTACGTCCGCCCCTACAAAATCCGCATC
GTTGCCGCCCTGATTGCCATTTTCGGCGTTGCCGCCACCGAAAGCTACCTTGCCGCCTTC
ATCGCCCCCCTGATTAACCACGGCTTTTCCGCACCTGCCGCGCCGCCCGAGCTGTCTGCC
GCCGCCGGCATCATTTCCACCCTTGCAAAACTGGCGCGAACAGTTTACCTATATGGTTTGG
GGGACGGAAAACAAAATCTGGACCGTCCCGCTCTTCCTCATCATCCTCGTCGTCATCCGT
GGCATCTGCCGCTTTACCAGCACCTATCTGATGACTTGGGTCTCCGTGATGACCATCAGC
AAAAATCCGCAAAGATATGTTTGCCAAAATGCTGACCCTTTCCTCCCGCTACCATCAGGAA
ACGCCGTCCGGCACCGTACTGATGAATATGCTCAACCTGACCGAACAGTCGGTCAGCAAC
GCCAGCGACATCTTCACCGTCCTCACGCGCGACACGATGATCGTTACCGGCCTGACCATC
GTCCTGCTTTACCTCAACTGGCAGCTCAGCCTCATCGTCGTCCTGATGTTCCCCCTGCTC
TCCCTGCTCTCGCGCTACTACCGCGACCGTCTGAAACACGTCATTTCCGACTCGCAAAAA
AGCATAGGCACGATGAACAACGTGATTGCCGAAACCCATCAGGGACACCGCGTCGTCAAG
CTGTTCAACGGGCAGGCGCAGGCGGCAAACCGGTTCGACGCGGTCAACCGCACCATCGTC
CGCCTCAGCAAAAAAATCACGCGAGGCAACGGCGGCACATTCCCCGTTCAGCGAACTGATC
GCCTCGATCGCCCTCGCCGTCGTCATCTTCATCGCCCTGTGGCAAAGCCAAAACGGCTAC
ACCACCATCGGCGAATTTATGGCATTCATCGTCGCGATGCTGCAAATGTACGCCCCCATC
AAAAGCCTTGCCAACATCAGCATCCCTATGCAGACGATGTTCCTCGCCGCCGACGGTGTA
TGTGCATTTCTCGACACCCCGCCCGAACAGGACAAGGGCACGCTCGCACCGCAGCGTGTC
GAAGGGCGCATCAGCTTCCGCAACGTCGATGTCGAATACCGTTCAGACGGCATCAAAGCC
CTCGACAACTTCAACCTCGACATCAGACAAGGCGAACGCGTCGCCCTGGTCGGACGTTCC
GGCAGCGGCAAATCCACCGTCGTCAACCTGCTGCCCCGCTTTGTCGAACCGTCTGCCGGC
AACATCTGCATAGACGGTATCGACATCGCCGACATCAAACTCGACTGCCTGCGCGCCCAA
TTCGCCCTCGTCTCCCAAGACGTATTCCTGTTTGACGACACCCTGTTTGAAAACGTCCGA
TACAGCCGTCCCGACGCGGGCGAAGCCGAAGTCCTGTTCGCCCTCCAAACCGCCAACCTG
CAAAGCCTGATTGACAGCTCCCCGCTCGGACTGCACCAGCCCATCGGATCGAACGGCAGC
AACTTATCCGGCGGACAGCCGGCAACGCGTCGCCATTGCCCGCGCCATTTTGAAAGACGCG
CCGATATTATTATTGGACGAAGCCACCAGCGCATTAGACAACGAATCCGAACGCCTCGTC
CAACAGGCGCTCGAACGCCTGATGGAAAACCGCACCGGCATCATCGTCGCCCACCGCCTG
ACCACCATCGAAGGGGCCGACCGCATCATCGTGATGGACGACGGCAAAAATCATCGAACAA
GGCACACACGAACAACTGATGTCCCAAAACGGTTACTACACGATGTTACGCAATATCTCA
AACAAAGATGCCGCCGTCCGGACGGCATAAACAAAATGCCGTCCGAAATGGTACAATCGC
CCCGACCCTTTCAGACGGCATCATATCCGCCGACCCATCCGATTATCTTCAATCACTGTA
AAACCCATTATGACCCAAGACAAAATCCTCATCCTTGACTTCGGTTCGCAAGTTACCCAG
CTCATCGCCCGCCGCGTGCGCGAAGCCCACGTTTACTGCGAGCTGCATTCTTTCGATATG
CCTTTGGACGAAATCAAAGCCTTCAACCCCAAAGGCATCATCCTCTCCGGCGGCCCCAAT
TCCGTTTACGAATCCGACTATCAAGCCGATACCGGTATTTTTGATTTGGGCATTCCGGTT
TTGGGCATCTGTTACGGCATGCAGTTTATGGCGCACCACTTGGGCGGCGAAGTGCAGCCC
GGCAACCAGCGCGAATTCGGTTATGCGCAAGTTAAAACCATAGACAGCGAGCTGACACGC
GGCATTCAAGATGGTGAGCCAAACACACTCGACGTATGGATGAGCCACGGCGACAAAGTG
TCCAAACTGCCCGACGGTTTCGCCGTCATCGGCAACACCCCGTCCTGCCCGATTGCCATG
ATGGAAAACGCCGAAAAACAATTCTACGGCATCCAGTTCCACCCCGAAGTTACCCACACC
AAACAAGGCCGCGCCCTGTTGAACCGCTTTGTCTTGGATATTTGCGGCGCACAACCGGGC
TGGACGATGCCGAACTACATCGAAGAAGCCGTTGCCAAAATCCGCGAACAGGTCGGCAGC
GACGAAGTGATTTTAGGTCTGTCCGGCGGCGTGGACTCTTCCGTAGCCGCCGCGCTGATT
CACCGCGCCATCGGCGACCAACTGACCTGCGTGTTCGTCGATCACGGTTTGTTGCGCCTG
AACGAAAGCAAAATGGTGATGGATATGTTCGCCCGCAACTTGGGTGTGAAAGTGATACAC
GTCGATGCCGAAGGGCAGTTTATGGCGAAACTCGCCGGCGTAACCGACCCCGAGAAAAAA
CGCAAAATCATCGGTGCGGAATTTATCGAAGTATTTGATGCCGAAGAAAAAAAAACTTACC
AACGCCAAATGGTTGGCACAAGGCACGATTTACCCTGACGTAATCGAATCCGCAGGTGCA
AAAAACCAAAAAAGCCCACGCCATCAAATCGCACCACAACGTCGGCGGCCTGCCTGAAAAC
ATGAAGCTCAAATTGCTTGAGCCTTTGCGCGATTTGTTCAAAGACGAAGTACGCGAATTG
GGTGTGGCTTTGGGCCTGCCGCGCGAAATGGTGTACCGTCATCCGTTCCCGGGTCCGGGT
TTGGGCGTGCGCTATTTTGGGCGAAGTGAAAAAAGAATATGCCGACCTGCTTCGTCAGGCA
GACGATATTTTCATTCAAGAATTGCGCAATACTACCGATGAAAACGGTACATCTTGGTAC
-GACCTGACCAGCCAGGCATTCGCCGTGTTCCTGCCCGTCAAATCTGTCGGCGTAATGGGC
GACGGCCGCACATACGATTACGTCATTGCCTTGCGTGCCGTGATTACCAGCGACTTTATG
```

Appendix A   -450-

```
ACCGCGCATTGGGCGGAACTGCCGTATTCCTTGTTGGGCAAAGTGTCCAACCGCATCATC
AACGAAGTCAAAGGCATCAACCGCGTGGTTTATGATGTGAGCGGCAAACCGCCTGCCACC
ATCGAGTGGGAATAAACAGCAAACATGGCTGCCCCGTCCGGCCGCAGTCCTTCGATTATCG
GAAAAAAGGAAAAAATATGAGCACACAAGATTTAAACGGCAAAATCGCTTTGGTAACAGG
CGCATCGCGCGGTATCGGTGCAGCAATTGCCGACACGCTGGCGGCAGCCGGTGCCAAAGT
CATCGGTACGGCGACCAGTGAGAGCGGTGCGGCGGCGATTAGCGAGCGGTTGGCGCAATG
GGGCGGCGAAGGCCGCGTATTAAATTCCGCCGAACCTGAAACCATCGAAAGCCTGATTGC
CGACATCGAAAAAGCGTTCGGCAAACTCGATATTCTGGTCAACAACGCCGGCATCACCCG
CGACAACCTCCTGATGCGCATGAAAGAAGAAGAGTGGGACGACATCATGCAGGTCAACCT
CAAATCCGTGTTCCGCGCTTCTAAAGCCGTTTTGCGCGGTATGATGAAACAACGTTCCGG
CCGCATCATCAACATCACATCCGTCGTCGGCGTGATGGGCAATGCCGGTCAAACCAACTA
TGCCGCGGCAAAAGCAGGCTTAATCGGTTTCTCCAAATCCATGGCGCGCGAAGTCGGCAG
CCGGGGCATTACCGTCAACTGCGTCGCCCCTGGCTTTATCGATACCGACATGACACGCGC
CCTGCCGGAAGAAACCCGCCAAACCTTTACCGCCCAAACCGCCTTGGGCAGATTCGGCGA
CGCGCAAGACATCGCCGATGCGGTTCTGTTCCTCGCTTCCGACCAAGCAAAATACATCAC
CGGCCAAACGCTGCACGTCAACGGCGGTATGCTGATGCCTTAACAGACAACTTTTTCAAC
CATGCCGTCTGAAGCCCTTTCAGACGGCATTTGCATTCTCAGGCAAAATGAACACACACC
ACACCCCGCCCTGCCCATGCGGCTCAGGCACAAGCTGAGACCTTTGCAAAATTCCTTTCC
CTCCCGACAGCCGAAACCCCAACACAGGTTTTCAGCTGTTTTCAGCTGTTTTCGCCCCAA
ATACCGCCTAATTCTACCCAAATACCCCCTTAATCCTCCCCGGACACCTGATAATCAGGC
ATCCGGGTCACCTTTTAGGCGGCAGCGGGCGCACTTAGCCTGTTGGCGGCTTTCAAAAGG
TTCAAACACATCGCCTTCAGATGGCTTTGCGCACTCACTTTAATCAGTCCGAAATAGGCT
GCCCGGGCGTAGCGGAATTTATGGTGCAGCGTACCGAAGCTCTGTTCGACCACATATAGT
GGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAA
GGTGCTGAAGCACCGAGTGAATCGGTTCCGTACTATTTGTACTGTCTTCGGCTTCGTCGC
CTTGTCCTGATTTTTGTTAATCCACTATACATCATCGCTACTACCGTTCCGGCGCAACAG
GCATTCCTCGATGCCGCCGAACTGATGCAATGGAGTATAGAAACCGAACGGGCTGGGCTTG
AACGTCATCTCGCACAAGATACTCGGCAAAGACCACGCCCAAGTCGAATTTGAAGCCTAC
TTCCGAGACGGACAACACCGATCCGCGCATCACGAACTGTCCGGCTTCGTCAACATCGGC
GGACAATGGTATTTTATCGATCCCACCGTTCCGCATCCTGCGATGAAACAACCCTGCATT
TGCGGATCAGGCAAAAAATTCAAAGCCTGCTGCGGCAAATATCTGAAACCTGTCGCATAA
AAATGCCGTCTGAACGTTCAGACGGCATTTTCAACGTGCAAAAAAAACCATTCATACCAA
GGGTAAGTATGAATGGTCAATACATTGCGGGAAAACGTCTTACTTGCTGCACTGCCGAAA
AGGGAGAAACGGCAGCGGTAATCAGCGGAAAGGATTGTACCCGAATTAATATTAAGAAAC
GTTAATCGCGAAAATATATTAACAAACCTGTTGAAACCTATTGGTTTTCCCGTATCCACC
CGACCCAGCCGTTCAAACAGCTTCGGTTCGAGCGCGGCAACGACCGAGCGTTTGAACACGT
GTTCACCACTCCAAAACCGTCGCCTTCCAAAGTCGTCAGCCTGCCGGCCCGCCTCCTCGA
AAATCAACGCGCCGGCGGCATAATCCCACAGCTTCTGCCCGCCGTGAACATAAACATCAT
AACGCCCGCACGCCAGATAACACCAATCCAACGTACTGCTGCCCATACTCCGTATCGTTC
CAAAAGGCGCGAGCGTACTCATACGGCTGGAAAGTTTGCCCGACCGCAGATATTTGATTT
CCACGCCCGCAATCGCCTCATTGAGTTTTTTTATCCACGAGGCGCAGGGGCAGACGCGTCC
CGTTTAAAAACGCCCCCTGCCCGCGTTCGGCATAAAAACATTCGCCGCTGACTGGGTTGT
AGATTACGCCCAACTCGGCGCGCCCGTTGCGGACAAACGCCACCGATACCGCAAAATGCG
GCAGCCCGTTGACAAAATTGTTCGTCCCGTCTATCGGATCGACAATCCACAGCCCCTTTT
CCCCCGAATATTGTTCCCACAAAGCCGACTGTTCCTGCCCGCGACATTTCCTCACCCGAA
TCGGACTGTCGATTAAAAGCGGCAACGCGGCGGCAAAAGCCGTCTGCGCGGCAATGTCCG
CCTCGCTCAACATCGAACCGTCTTCCTTGCGGTGAGACGGCGTATTCAAAAAACGCGGCA
TAATTTCGGTTTGCGCGATATGGCGCACGACTTTCTGCAAACGGTGTAACACTTCCTACT
GTCCTCATATTTTGAACTTGCGGCGCGCGAACGTATAATGTCCGCTTCCATCACGCCGCT
GCGACGGATTATAACCGTCCGAACCGCCAAAAACTATGCCCCGATTCCACCTGCCCGAAA
ACCTTTCCGTCGGACAAACCGTCGCCCTGCCCGACAACATCGTCCGCCACCTCAACGTCC
TGCGCGTCCGCCCCAACGAAAACATCACCCTCTTCGACGGCAAAGGCAAGGCACACGCCG
CACGGCTGACCGTTTTGGAAAAACGCCGCGCCGAAGCCGAAATCCTGCACGAAGACACAA
CCGACAACGAGTCCCCGCTCAACATCACACTGATACAATCCATCTCCTCCGGCGATCGCA
TGGATTTCACCCTGCAAAAAAGCGTCGAACTCGGCGTAACCGCCATACAGCCCGTCATCA
GCGAACGCTGCATCGTCCGCCTCGATGGGGAACGCGCGCCGCCCAAACGCCTCGCACGCTGGC
AGGAAATCGTCATCTCCGCGTGCGAACAAAGCGGCAGGAACACCGTTCCCCCCGTACTGC
CCATCATCGGCTACCGTGAAGCACTCGACAAAATGCCGTCTGAAAGCACCAAGCTGATTA
TGAGCATCAACCGCGCCCGCAAACTCGGCGACATACGCCAACCGTCCGGCGCAATCGTCT
TTATGGTCGGGCCCGAAGGCGGCTGGACAGAACAGGAAGAACAACAGGCATTTGAAGCTG
GCTTTCAGGCGGTTACACTCGGCAAACGGATTTTACGCACAGAAACCGCCCCACTCGCCG
CCCTCGCCGCCATGCAGACGCTTTGGGGCGATTTCGCATAAACAGAAATGCCGTCTGAAA
CCCGTTCAGACGGCATTTTGCAGCCGATTAAGATAGTAGGTTCAAATAAGATTTCCCGTG
TCGTCATTCCCGCGAAAGCGGGAATCTAGAAACGAAAAACTACAGAGATTTATCCGAAAC
AACAACCCTCTCCGCCGTCATTCCCGCAAAAGCGGGAATCTAGAAACGAAAAACTACAGG
GATTTATCCGAAACAACAAACCCTCTCCCCGTCATTCCCGCAGGCGGGAATCTAGAA
ACGAAAAACTACAGGGATTTATCCGAAACAACAAACCCTCTCCGCCGTCATTCCCGCGCA
GGCGGGAATCTAGAAATTTAACGTTGCGGTGATTTATCGGAAATGACTGAAACTCAACGG
ACTGGATTCCCGCCTGCGCGGGAATGACGAGATTTTAGGTTTCTGTTTTTGGTTTTCTGT
TCTCGCGGGAATAACGGAATTTTAAGTTTTTAGGAATTTGTCGGAAAAACAGAAATCCCCC
CGCCGTCATTCCCGCAAAAGCGGGAATCTAGAAACGAAAAACTACAGGGATTTATCCGAA
ACAACAAACCCTCTCCGCCGTCATTCCCGCGAAAGCGGGAATCTAGAAATTTAACGTTGC
GGTGATTTATCGGAAATGACTGAAACTCAACGGACTGGATTCCCGCCTGCGCGGGAATGA
CGAATTTTAGGTTTCTGTTTTTGGTTTTCTGTTCTCGCGGGAATAACGGAATTTTAAGTT
TTAGGAATTTATCGGAAAAACAGAAATCCCCCCGCCGTCATTCCCGCGAAAGCGGGAATC
```

```
TAGAAATTTAACGTTGCGGTGATTTATCGGAAATGACTGAAACTCAACGGACTGGATTCC
CGCCTGCGCGGGAATGACGAATTTTAGGTTGCTGTTTTTTGGTTTTTCTGTTTTTGCGGGA
ATGACGAATTTTAGGTTTCTGTTTTTGGTTTTCTGTTCTCGCGGGAATAACGGAATTTTA
AGTTTTAGGAATTTGTCGGAAAAACAGAAATCCCCCCACCGTCATTCCCGCAAAAGCGGG
AATCTAGAAATTTAACGTTGCGGTGATTTATCGGAAATGACTGAAACTCAACGGACTGGA
TTCCCGCCTGCGCGGGAATGACGAAGTGGAAGTTACCCGAAACTTAAAACAAGCGAAACC
GAACGGACTAGATTCCCGCCTGCGCGGGAATGACAGTGTATCCATTTCTAATTTTAATCC
GCTATATTTTACACAAACTATTTGAACGATATGACCCGCCTGCCGTAAGCTTTCTCAAGC
TCCGCCTGCCTTTGACGCTCCATTCTTTTCTTCTTTTCCCTACCGAATTTACCCAAAGCA
CGCTTCAAGTCAAACATCACCTTCAACGACGGCGGTGTCTTCTTTCTTGTTCCCTATCT
TTTTCCAAATCGCTACCCAACATACTGTTTTTACTGAGGAACTTGGCATAATGCAATTCT
TGGGTACATAAGGCGGGATTAACCTGATAAACAGGCATCCCCTCCTTATCAAAGAAATAA
GTAAACATCATCCAATCTACCGCTTTAATCCACTCTGCCGGCAAAACGGCAAACCTTTCC
AAGAAAAACCGCATCGCCTCACGCGAAATGATATAGCCAGCCGTCCCCCAATGTTCGCTC
TCCAGCAAAGGAAATGACCGATTCTCATAATTCAGGACTTTATCCGGTCTGACAATAACT
TTCGCAAACATCGTTTCCAAACGAACGATAAAGGCAGAATCCTTATCAAAACGCTCTTCC
AACCAAGTATCTTCGGCAAGGAACTTTTCTGCGTCTTTGCCAAGCAGGACATCATCCTCA
AATACGGCAACATAGGGCAGACCTTCATCCAATGCCTGTTTCCACAATACGGCGTGGCTC
ATAAAGCAGGCTTTTTCCACTTCGCTCAACAGGTGCTGTTTTGCCAATCCCGGCACCAAT
TCCGCCATCATCCGATTCAGTTCTTCAGACGGCATCAGTGCGTCGAAAAACTGAAACGGG
ATGCCGCGCACGCCGAAGGTTGCGGCAATGTGCGCCCTGCGTTCTGCGGCGGAAGCTAAG
CTGATAACATGGTTTTGCATAATTTATCCTGTTTTTTGTCTGTTGGATAAAGCGGCGTTT
TTCAACGGTTTTTCAGCAATCGGCGCAAAATGCCGAAGTATTGCCTCAAGGTAAACAGCC
GCCGCATCCTGCCGTCTGCTGCAAATACGATGTCCATCTCTCCTCCTTTTATTGGAAAGG
CACAATGAACTGTTCGCGCCCTTTGCCGGCGTTTTTCCCTTTCCCTGCTGATTTTGGTCAA
GGCGCGGATCAGGCGGTGTTTGAATGTGTTGGCGGGGGAATCGCGCCTTTGCTGTTTGCG
GTTCAGGAGGCGGTCGTGTTCGATCAGGCTGCCCAATGCGCTGTTTTGGTCGTGAAACTT
GGCATAATGCAGCTCTTGGGCGCACAAGGCGGGATTGAGCTGGCAAACCGGCATTCCTTC
CCTGTCGAAAAAATCGCTGAACATCATCAGATCGACGGGGTGCAGCCCTTCGGGCGGGCAG
GGCGGCAAACCTGTCCAGGAAAAAACCGCATCGCTTTTCGGGAAATGATATAGCCCGCCGT
CCCCCAGTGTTCGCTTTCCAACAGCGGAAAGGCGCGCCCGCAGTAATCCGCCACGCCGGA
GGGCGAGGTCAGGACGTGCATAAACATCGTTTCCAAGCGGACGATAAAGGCGGTATCCGG
GTCAAAGCGTTCTTGCAGCCAAGCGTCTTCGGCAAGGAATTTTTCCGCACCTTCGCCGAG
TAAAACGTCGTCCTCAAATACGGTGATATACGGCAGACCTTCGTCCAATGCCTGCGTTCCA
CAATACGGCGTGGCTCATAAAGCAGGCTTTTTCCACTCCGCTCAAATAGGGGTGCGCCGA
CAAGCCGGGGACGAGTTCCGCCATTGCCTGTTCCAGCCTTTCAGACGGCATCAGTGCGTC
GAAAAACTGAAACGGGATGCCGTGCCTGCCGAAGGTATCGGCAATGTGCGCCCTGCGTTC
TGCGGCGGAAGCTAAGCTGATAACGTGGTTTTTGCATAATTTATCCTGTTTTTTGTCTGTT
GGATAAAGCGGCGTTTTTCAACGGTTTTTCAGCAATCGGTGCAAAATGCCGAAGTATTGC
CTCAAGGTAAACAGCCGCCGCATCCTGCCGTCTGCCGCAAAATCCAGCCACGCGCCGGCG
GGCAGCGTGTCCGTCCGTTTGAAGCATTGGTACAAAAACCGGCGGGCGCGTTCAAAATCT
TCTTCCGGCAAATGTTTCTCCAGCAATTCATACGCTACTGCTTTTATTTGGCGGTATTCA
AGGCTGTCGAACCGGGTTTTAAAACCCATAGACTGCAAAAAATCGTTTCTGGCGGTTTTT
TGGATGCCTTGCCGCGATTTCGTGTTGGCGGATGCTGTATTTGGATGAAACCTGATTGGCG
TGAAGGCGGTATTTGACCAAGGCTTCGGGATAATAAGCCAGCCTGCCCAATTTGCTGACA
TCGTACCAAAATTGGTAATCTTCCGCCCAATCCCGCTCGGTGTTGTAACGCAAACCGCCG
TCAATGACGCTGCGCCTCATAATCATCGTGTTGTTGTGTATGGGGTTGCCGAAAGGGAAA
AAGTCGGCAATGTCTTCGTGTCGGGTCGGTTTTTTCCAAATTTTGCCGTGTTCGTGGTGC
CGCGCCAGCCGGTTGCCGTCCTTTTCTTCCGACAAAACTTCCAGCCACGCACCCATCGCG
ATGATGCTGCGGTCTTTTTCCATCTCACCCACGATTTTCTCAATCCAGTCGGGGGCGGCA
ATATCGTCTGCATCGGTGCGCGCAATATATTCCCCCCCCCCCCCCGACTTTGCCAATTCA
TCCAGCCCGATGTTTAAAGAGGGAATCAGACCGGAATTGCGCGGCTGCGCGAGGATGCGG
ATGCGGCCGTCCTGTTCTTGGAAACGCTGGGCAATGGCAAGCGTACCGTCCGTCGAGCCG
TCATCGACAATCAAAATATCCAAGTTGCGCCAAGTTTGATTCACGACGGCGGCTAATGAT
TGGGCGAAATATTTTTCTACGTTGTAGGCGCAAATCAATACGCTGACTAAGGCTGCAAT
TTATTCTCCCGATAGGCACGATGCCGTCTGAAGGCTTCAGACGGCATTTGGACTGTACAA
CGGTTACTCGCCCAAAAGCGCGATATCCGCTACCGCGTTCATTTGTTCTGCCAAGCGGTT
CAGCAGGTTCAGGCGGTTTTGTTTCACGGCGGCATCTTCCGCCATCACCATCACGCCGTC
GAAGAAGGCATCGACTTGCGGTTTGACGGAAGCCAGTTCGGACAAGGCGGTCTGGAAATT
GCCTTCGGCAACGGCGGCGGCAATTTTCGGCTGCAAGCCTTGTGCGGCGGCAAAGAGGGC
TTTTTCTTCGTCCTGTTGCAGCAAGCTTTCGTTAACCGCGCCCAACTCGGCATCGGCTTT
TTTCAGCAGGTTTTGCACGCGTTTGTTGGCAGCGGCGAGCGCGGCGGCTTCGGGCAGTTG
TTTGAACGCGGCGACAGCCTGCAGTTTGGCGGTCAAATCGTCCAAACGGCGCGGCTGCTT
GGCAAGTACGGCGGCAACGATGTCTTGCGGATAATCGTTTTGCAGCAATACGGCAAGGCG
CGCCTGCATGAAGTCGGCGGTTTCAGACGGCGTTTTTCGTTGAGCAAACCTTGCGGGGAA
GCTGTTGAAGGCCGTCTGAATCAGTTCGTTTACGTCCAAACCGTACTGCATCAGCATACG
CAAAATACCCAATGCGGCGCGGCGCAGGGCGTATGGGTCTTTGTCGCCGGTCGGAATCAG
GCCGATACCCCAAATGCCGACCAAGGTTTCCAGTTTGTCGGCAAGCGCAACGGCGGCGGC
AATTTTGCCCTCAGGCAGGTTGTCGCCGGCAAAACGCGGTTGGTAGTGTTGCTCGACGGC
TTCGGTAATTTCTTCGGTTTCGCCGTCCAAGCGGGCGTAGTATTTGCCCATCGTGCCTTG
CAGTTCGGGGGAACTCGCCGACCATTTCGGTTACTAAGTCGGCTTTTGCCCAAACGCGCGGC
GCGTTCGGCTGCGGCGGCATCCGCGCCCAAAGCCTTGGCGATATGGGCGGCGATGCTTTG
CAGGCGTTCGATGCGTTCGGCTTGCGAACCGATTTTCGTTGTGATAAACCACGTTCGTCAG
TTTGGGCAGGCGGCTTTCCAAAGTCGCTTTTTGGTCTTGTTTGTAGAAGAACTCGGCATC
AGACAGGCGCGCGCGCAAGACACGTTCATTGCCTTGGATGATGTGTGACGGATCTTCGGT
```

Appendix A   -452-

```
TTGCAGATTGGACACCAGCAGGAAGCGGTTCATCAGCTTGCCGTTTTGGTCGAGCAGCGG
GAAGTATTTTTGGTTTTGCTGCATCGTCAGAATCAGGCATTCTTGCGGTACGGCGAGGAA
GTGTTCTTCAAAACCGGCTTCCAATACCACAGGCCATTCGACCAGCGCGGTTACTTCGTC
CAACAAGGCTTCATCGGCGGCGGCGGTCGCGTTCAGACGGCGTGCCTGCCCTTCCAATAC
CGTCTGAATCGCGGCTTTGCGCTCGGCAAACGAAGCGACGACTTTGCCTTGCTCGCGCAT
TTGTGCGGCGTAGCTGTCGGCGTTTTCAATGGTAATTTCGCCGTCGGAGAGGAAGCGGTG
TCCCAAGGTTTTGTTGCCGCTTTGCAGACCCAAAACGCTGACGTTCACAATGTCGCCGCC
GTGCAGTACAACTAGCCCGTGAACGGGGCGCACAAAGGTAAACGTGCTGCTGCCCCAACG
CATTACTTTGGGAATCGGCAGCTTCTTAACCGCTTGATTGATAATGTCTTCCAAAAGTCC
GCCCAACGGTTTGCCGATTTGGACGTATTCGTAGGCGTACACGTCCTGCTTGCCGTCGTG
GACGATGGTCAAGTCTTCGATTTTCGCGCCCGCACCGCGTGCGAAACCTTCCAAAGCCTT
GGTTGGCGCACCGTCTTTCATGGCATTCGCTACGGCAGGGCCTTTTTTCACAATTTTTTG
ATCAGCCTGAACGGCTTTGACGTTTTTGACTTGAACCGCCAAACGGCGCGGCGGAGGCATA
AGCCGTAAATTCGGCTGCGCCGTCAACCAGTTGCGCTTTTTCCAAGCCTTCGGCAACGGA
AGCGGCGAAATGGTTGCCCAGATTATTCAGGGCTTTGGGCGGGAGTTCTTCGGTAAGGAG
TTCGATTAAAAGGGTTTGGGTCATCATTCGGCTTTCTTTGAATTTGGTTAATCTGCCTGT
TTATAGGTTTCGCTGTAATTTTCCCAGCCGTCATCCCCATAAAAACCGTCAACCAGCGGG
GTGGCGTACAAAGTGGCAACATCTTCGCGGTCTGCCAGCCAAGAGATAATGGCTTTTTTC
TCGGTTTCTCCCAAGCTTCGGGCACCGGATTTTTTGAAACAGGCACGAAAAATCGCCGCAA
TCGCCCCCCCGCCATTTCAAAGCCGTTTGCCGCAAGATACGCAATCAGCTCGTCCATAAA
GCGGTCGAACGCTTCGGCATCGTCCTCAGCTTGGTGCAAACTGCCTTGAACGCCGAAAAT
CAATGTTTGAAACTCGCCCAAATGCAGCTTTTTATGCTGGCGGCGGTTCATTTTGTGCAG
GCGTTTCCTGCTTGGGGTGCGGAAATAGACAGGCATGATTTTCCTAAAAAATATAATGGC
TTCCGGACGGCTGCCTTATCGTGCCGCCCGAACGTAAAAAATCGTCGCCCCCTTAGGCGG
CGTTTGCCTTCATTAAAGGGAAGCCCAGTTTTTCGCGGCTTTCAACATATTTTTGCGCCA
CGGCGCGGCTCAATGCACGAATACGTCCAATATAAGTTGCCCGCTCAGTTACGGAAATCG
CGCCGCGTGCGTCTAAAAGGTTGAACGTATGCCCCGCTTTGAGGACAAGCTCGTAGGCAG
GCAGGGCGAGGGCGGCGTTTTCTTCGGCAAGCAGGCGTTTGGCTTGCGCTTCGTAGTCGT
TGAACTGGCGCAGCAGCCAGTCGGCATCGCTGTATTCGAAGTTGTAGGTGGATTGCTCGA
CTTCGTTTTGGTGGTACACGTCGCCGTAGGTGACGGTGTTGCCGTCGAGCGTTTTTGCCC
AAACGAGGTCGTAGACGTTTTCTACACCTTGCAAGTACATCGCCAAGCGTTCGATGCCGT
AGGTGATTTCGCCGAGTACGGGCGTGCAGTCGATGCCGCCGACTTGTTGGAAATAGGTAA
ACTGGGTTACTTCCATGCCGTTGAGCCAGACTTCCCAGCCCAAACCCCACGCGCCGAGGG
TGGGGTTTTCCCAGTCGTCTTCGACAAAGCGGATGTCGTGGACTTTGGGATCGATCGATCGT
ATTCGCGCAGAGAGTCGAGATAGAGGTCTTGGATATTGGCGGGAGCGGGCTTGAGGGCGA
CTTGGAATTGGTAATAGTGTTGCAGGCGGTTGGGGTTGTCGCCGTAGCGGCCGTCTTTGG
GGCGGCGGCTGGGTTGGACGTAGGCGGCAAACCAAGGCTCGGGGCCGAGTGCGCGCAGGC
AGGTGGCGGGATGGGATGTGCCGGCACCGACTTCCATGTCGAAGGGTTGGATGACGGTGC
AGCCTTTGTCTGCCCAGAATGTTTGCAGTTTGAAGATGATTTGTTGGAAGGTAAGCATGG
CTTATGATTCGATAAAATAAAGGGTTTATTTTACTGTTTCCATTGCTGTTTGGATAGGTT
TATCTCAAAGACAGACTGATTTGAAAACACGGCATACATGATATAGTGGATTAAATTTAA
ACCAGTACAGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTCAAGCA
CCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATT
TTTGTTAATCCGCTATATGTTTCGGTTAGGCGGCAGGCTGCCCTATTGAATACCTTAAAG
CAGGCTATGCCTGCCAACGCCATATCCAAACACAGTCTTTAATTTAAATCCGGAAAATAA
AAAGCACGACCAAACGGTCGTGCTTTTCCAAACCAAACAAGTTTATTTCTTGTGCGAACG
GATATAGTCCAAAGTTTTGAGCTGTGCAATCGCAGCAGCCAATACTTTATGCGCTTCCGC
CAAAGCCTTATCGTCTTTAGCTTGGGAAATGCCCGCTTCTGCGGCTTTTTTCGCCTCTTC
CGCACGTGCCCGATCCATCTCCGCACTGCGGACGGCAACATCCGCCAAGACAGTTACTTT
ATCAGGCTGTACTTCCAAAACACCGCCGGAAACAGCAACCAAAACCTCTTTATCCTCGCC
CGGAACGGTCAAACGCAAAGCCCCCGGCCGCACCAAACTCATAATCGGCTCGTGTCGCGG
ATAAATACCGAGTTCGCCCTGTACAGTCGGAACAACGATAAATGTTGCCTCGCCTGAATA
GATTTTCTGCTCGCTACTTACCACCTCAACTTGCATGATGCTCATGCCGACCTCCTTAGT
TTAAGGTTTTCGCTTTCTCTACTGCTTCTTCAATGCTGCCGACCATATAGAATGCCTGCT
CGGGCAGATGATCGTATTCGCCGTTCAAGATGGCTTTGAAGCCGGCAATGGTATCGCGCA
GGGCGACATATTTACCCGGAGAACCTGTAAACACTTCGGCAACGTGGAACGGTTGGGACA
GGAAGCGTTGGATTTTACGCGCACGCATTACGGTCAGTTTGTCTTCATCAGACAATTCGT
CCATACCCAAGATGGCGATGATGTCGCGCAATTCTTTGTATTTTTGCAGGGTGGACTGCA
CACCGCGCGCCACGTCGTAGTGCTCTTGACCCAATACCATCGGATCCAGTTGGCGCGAAG
TAGAATCAAGCGGATCGACTGCCGGGTAAATACCCAAAGAGGCAATATCGCGGCTCAATA
CGACGGTTGCGTCCAAGTGGGCGAACGTTGTTGCCGGAGACGGGTCGGTCAAGTCGTCCG
CAGGTACATATACGGCTTGGATGGAAGTAATAGAACCGGTTTGGGTAGAGGTAATACGCT
CCTGCAAACGACCCATTTCTTCTGCCAATGTCGGTTGGTAGCCCACTGCAGACGGCATAC
GACCCAACAATGCGGATACTTCGGTACCAGCCAGGGTGTAACGGTAGATGTTGTCCACGA
AGAACAATACGTCGCGGCCTTTGCCGTTTTCGTCTTTTTCGTCACGGAAGTATTCCGCCA
TGGTCAAACCGGTCAATGCGACGCGCAAACGGTTGCCCGGAGGTTCGTTCATCTGACCGT
AAACCATTGCCACTTTATCCAATACGTTGGAATCTTTCATCTCGTGGTAGAAGTCGTTAC
CTTCGCGGGTACGCTCACCCACGCCTGCGAACACGGACAAGCCGCTGTGCGCTTTGGCGA
TGTTGTTGATCAATTCCATCATGTTCACGGTTTTACCCACACCGGCACCGCCGAACAGAC
CTACTTTACCGCGCTTTGGCAAACGGACACAGCAAGTCAATCACTTTAATGCCCGTTTCGA
GCAATTCGGTTGTGGAAGACAGTTCGTCAAACTTAGGGGCAGCTTGGTGGATGGCACGGC
TCTTGTCGGTATCGATCGGACCTGCTTCGTCAACAGGCGTTCCCAATACATCGACAATGC
GTCCCAACGTACCTTTACCTACCGGCACAGTAATGGGCGCACCGGTATTGCTCACAGTCA
TGCCGCGTTTCAAACCGTCCGAGCTGCCCATCGCAATGGCACGGACTACGCCGTCGCCCA
AAAGCTGTTGGACTTCCAAAGTCAGACCGTTTTTCGTCTAATTTCAAAGCGTCGTAAACGC
```

Appendix A   -453-

```
GCGGAATCATGTCGCGTGGAAATTCCACGTCAACAACCGCACCGATAATTTGTACGATTT
TGCCTTGGCTCATTATCGTATCCTAATTTCCGTACAGGATTCAGACGGCATCAGACAGCC
GCCGCACCTGCTACAATTTCTGACAATTCCGTGGTAATCGCAGCTTGACGCGATTTGTTA
TATACCAAACGCAACTCTTTGATGGCATTGCCTGCATTGTCTGTTGCAGCTTTCATGGCA
ACCATGCGGGCTGCCTGTTCGGATGCCATATTGTCGCTCAACGCCTGATAAACCACAGAC
TCTAAATAGCGGCGAACCAGATATTCCAACACTGCAAGTGCAGTCGGTTCGTAGCGGTAT
TCCCAGCTGAACGGTGATTTGGGAGCTGAATCGCCAATCACGTTCTCACCGATAGGCAGC
AATACTTCCATTCTCGGTTCTTGACGCGCATGGTATTGACAAAACCCGAATACACCAGATGG
ATTCGTCAATTTCATGTTTCTCATACCGTTGGAAGAGTTCTGTCAAAGGTCCGAGCAGC
ATTTCCATTTTTGGGGTATCGCCCAAATTTACGGCACTGGCAACCACATTCAGACCAATG
CTCTGACACGCCATCAGACCTTTACTGCCAAAGCATACGATTTCCTCTTCAATACCTTGA
TTCCGATACTCTTGAACTTGTGCCAAAAACTTTTTCAGCACGTTGGCGTTCAAACCGCCA
CACAAACCCTTATCAGACGTAATCAAAATAAAACCGACACGTCTGATTTCCCGATGAGAT
TCCAGTAACGGAATACCATGATCGGTATTGGTTTGCGCAAGATGGCTCATCACCATACGC
ACTTTTTCGGCATACGGACGCGCCAAACGCATCCGTTCCTGAGTCTTCCGCATTTTAGAG
GTTGACACCATCTGCATCGCTTTAGTGATCTTTTGGGTATTCTGAACACTGCGGATTTTG
GTGAGAATCTCTTTTCCTACTGCCATTTCAGACTCCTTTCACTTCAAGCCTTATGCCTGA
TAGGCGTAAGAAGATTTGAAGGATTTCATGGCTGCTTCAAGCGTTTTCTCGCTCTCGTCG
GACATTGCACCTGAAGCATTGACGGCTTCCAAAACTTCCGGATGTTGGGTACGGACAAAG
CTCAAAAATTCAGATTCAAAAGCCAGAGCTTTGGCAACCGGAACATCAGAATACGAACCG
TTGTTGATTGCCCAAAGGGTCAAAGCCATTTCAGCCGTATTCAACGTACTGAACTGTTTC
TGTTTCATCAGTTCGGTTACGACTTCGCCATGCTCCAATTGTTTGCGCGTAGCTTCATCC
AAATCGGATGCAAATTGCGAGAACGCCGCCAATTCACGATATTGTGCCAACGCCAAACGG
ATACCGCCACCCAGCTTTTTAATCACTTTGGTTTGTGCAGCACCGCCTACGCGGGATACG
GAAATACCGGCATTGATTGCAGGACGGATACCGGCGTTGAAGAGGTCGGTTTCCAAGAAA
ATCTGACCGTCGGTAATCGAAATGACGTTAGTCGGAACGAAAGCAGATACGTCGCCCGCT
TGGGTTTCGATAATCGGCAACGCGGTCAGAGAACCGGTTTTGCCTTTTACTTCGCCGTTG
GTCAATTTCTCCACTTCGTGTTCATTGACACGTGCCGCACGTTCCAACAGACGGGAGTGC
AGGTAGAACACATCGCCGGGATAGGCTTCGCGGCCGGGCGGCGCAAAAGCAGGGAA
ATTTGACGGTAAGCCACAGCCTGTTTGGACAAATCGTCATAAACAATCAAGGCATCTTCG
CCACGATCGCGGAAGAATTCACCCATCGTACAACCGGAGTAAGGTGCGATATATTGCAAT
GCCGCCGCTTCAGATGCAGTTGCAGCAACCACGATGGTATGCTCCATCGCGCCATGCTCT
TCCAATTTGCGGACCACGTTGGCAATAGAAGATGCTTTTTGACCGATAGCGACATAGATA
CAGATAACACCCGTACCTTTTTGGTTGACGATGGCATCCAATGCTACGGCCGTTTTACCT
GTCTGACGGTCGCCAATAATCAACTCACGCTGACCGCGACCGACAGGAACCATAGAGTCA
ATCGCCTTCAGACCGGTTTGCATCGGCTGGTCAACCGATTTGCGCGCAATCACGCCCGGT
GCGATTTTTTCGATAGGGGCGGTCAAAGTTGTATTAATCGGGCCTTTGCCGTCGATAGGC
CGACCCAATGCATCAACGACGCGTCCGACCAGTTCGCGTCCGACCGGCACTTCCAAGATA
CGACCGGTACAGGTAACCGTGTCGCCTTCTTTAATGTGTTCGTACTCGCCCAACACTACG
GCGCCGACGGAGTCGCGCTCCAGGTTCATCGCCAAGCCGAAAGTGTTACCCGGGAATTCG
AGCATCTCACCTTGCATTGCATCTGACAAACCATGGATGCGAACGATACCGTCAGTTACC
GAAATTACCGTACCACAGGTACGCACTTCGGCATTTACAGACAGATTTTCGATCTTGGCT
TTAATCAAATCGCTAATTTCAGCAGGATTAAGCTGCATGAAAACTCTCCTAATTCGTCAT
AGTCGTGTACAAGGCACTCAATTTGCCTTGTACAGACAAATCCAAAACCTGATCACCCAC
TTCAACTTTTATGCCGCCAATCAGCTCCGGTTCGATTTCGACAGAGATTTTCAGCTCGCT
GTCGAAACGCTTATTCAGCATTTGCACCAACTCGCCGACCTGTTTGTCGGTCAACGGATA
GGCACTGTAAATGACGGCAGATTTGATATGGTTGAATGATAAGGTCAAGTCTTGATATTG
AGCATATACTTCCGGCAATATCGACAAACGTTTCTGCCCGGCCAAGACGATAACAAAGTT
TTTCAACTCCTTGTCTTTCAAACCGACCAAATCGATGAGGATATCTGCTTTTTCTGAAGC
ATTCGTTTCAGGACGGGTCAATCAATGAAGCCACCTTCCCTTCCTGAACAACCGCCGCAAG
TTTTTCCAGTCCGCCCAACCAAGACTCAATTTGGTTTTTTTCCTGAGCCAGACCGAACAA
TGCCTTTGCATAAGGTCTGGCAATCGTTGCGAACTCTGCCATAAGATTACAGCTCCTGTT
TCAGGGTATCGAGCAGTTTTGCGTGTTTGGAAGCATCGACTTCGCTGCGCAAAATAGATT
CGGCACCTTTGACAGCCAACACGGCAACCTGCTCGCGCAGGGATTCGCGTGCGCGGAACA
ATTCCTGCTCCACATCGGCCTTTGCCTGAGCTGCAATGCGCGCCGCCTCGGAAGAAGCCT
GTTCTTTGGCTTCTTCGACAATTTTGGCGGCACGTTTTTCGGCGTTGGCAACCATTTCGG
AAACCTGATTACGCCCTTCTGCCAAGAGTTCTGCAACCTTTTTTTTCAGCCTGCTCAAAAT
CGCTTTTACCACGCTCGGCGGCAGCCAAGCCTTCGGCGACTTTTGCGGCACGCTCATCCA
AAGCTTTTGCAATCGGCGGCCACACGAATTTCATGGTAAACCATACCAAACCGAAAAAGA
CGATGATTTGAGCGAATAATGTTGCATTGATATTCACGTTACTTAACCTTCGTACTGGGG
TTAATCAAACAGGCTGCGCCTGTACGGAACGGACGAATCCGTCCTGATTATGCACCTGCA
AACGGGTTAACGAAGGCGAACAGCAGTGCAATGGCGACACCAATCAAGAATGCGGCATCA
ATCAAACCGGCAATCAGGAACAGTTTGGTTTGCAGCGGACCGATCAGTTCGGGCTGACGG
GCAGAAGACTCCAAATATTTAGAACCGACCATTGCGATACCGATAGAGGCACCCAATGCA
CCCAATGCAACGATCAAACCACATGCGATAGCAATCAAACCCATTTTAAACTCCTTAAAG
AAACAAAGGTTAAACTACAAAAACAAACTACTTAGGAAAATCAGTGCGCATCATGTGCCT
GTCCGATATAGACGAACGCCAACGCCATGAAAATAAACGCCTGCAGGGTAATCACCAAAA
TATGGAAAATCGCCCATGCCAAACCGGCAATAATGTGGAATACAAACAGAATCGGATCCA
TGACTTCGACGCTGCCGGAAGCCGCCCAAGCACCGCCAAGCAAGGCTATCAACAAGAATA
CCAATTCGCCCGCATACATATTGCCGAACAACCGCATACCGTGGGATACGGTTTTAGAAA
GAAACTCGACCAAATTCAACAGAAAGTTCGCAGGTGCGAGTTTTGCACCGAACGGCGCGC
TGAACAACTCGTGAAACCAGCCACCCAATCCTTTGATTTTGATGTTGTAATAGATACAAA
TCAGCAACACGCCGACAGCGAGTGCCAAAGTGGTGTTCAAATCGGCAGTCGGTACGACGC
GCAGCAGGGCGTGATGGTTGCCGGTAATGCCCTGCCATACCATCGGCAGCAAATCGACCG
GCAGCATATCCATCGCGTTCATCAGAAAAATCCAGACAAACAGCGTCAGACCCAACGGCG
```

Appendix A   -454-

```
CGACGGCTTTTCTAGACTTTTCGTTGTGAATGATGCTCTTACACATATCGTCCACAAACT
CAAACAAGATTTCCACTGCGGCCTGGAAACGTCCGGGAACGCCTGCCGTCGCTTTTTTTG
CACCGCGCCACAACAGAAAGCTGCCGATTACGCCCAACAGGACGGCAAAAAAGACGGCAT
CAAGGTTAATAAACGAAAAATCAGCAATGTTTTTCAGTCCCTGACCCTGAGTAACATCCG
ACAAACTGGTCAAGCTCTGCAAGTGGTGCTTGATGTAGTCGGCAGCGGTAATGGTTTCAC
CTGCCATAATCTTTCACTCTCAACAATACTAAAAAAACCAAATGGCTGACACCGAGCAGC
CCCATCAGAAACGGGGCGAACACCAGCGATTGATGCCATATTGCAAATACGGCAAGCATG
GACAACAGCGACAGCACTACTTTTAAAATCTCTCCGAAGACGAACATCCTGCTTTGCAGG
AAGGGGTTTCCCCTGAAAAGTTTTAAAAGTAAAACTGCAACAAACGTGGGAAGCAGGTAG
GACAAACCGCCACCGACCGCCGAAAGGAATCCGGCAAAACCCCATACAGCAAAGGCAACT
GCGGCGCATATGGACAATACGGCGGATTGTAGGATGATAATCTGCTTCATAAAGGGAATG
TTTCCGCCTCGGATTTGGGGCGCGGCTAATATAATTTAGAAGCCTTATTACGTCAAGCGA
CAGTTAATCTTTGTGAAACAACGTATCCCAATCCGCGCGCTCGCCGCCTGAATAACGGC
GACAGGTGTCATTCTAACACACATTACATATAATTACAGGATATTAAGGAGTTTGTCCGC
AATTTCTTTACATTTTTAATGTTCTTACGTGATTTGTTTGCTTTACGTGGAAATAATAAA
AAATCAACGCGAAATTGTAGCAGTTTATCGGTCGGATTGTCGGCAGTTTGGGGAATTTGC
TCAATAAATAAAAGGTCGTCTGAAAATATTTTCAGACGACCTTTTCCGAATAAAGGATTA
GCAACTGCCTGCCGCTTTAAGCAAAGCATTGCATTGACTTTTGCCTTTGTGCGTTCCGCC
TCCCAAACAAATTGCATCGGAAGTGGTAACGCCGATTGTGCTGATTACACTGGTAACATA
GCATTGGCTCACGCGCTTACCCACAGTTGCGGTAAAGTTGATGCGTATGCCTTCATTGTT
GCGGTTGCTGATTTTTACGGCATTTGGGCTGACGCCCAAGGCAAACGCGGCACGTTCCTG
AAGTTTCTAGTCGGAAACGGTTACATTATTGATTGAGCCGCAACCTGCTAATGCCAACGC
AACGAACGCAGCCGAAACGATGATGCGTGTGTTCATAATTTCCTCGAAAATTAAAAATGA
AAACAGGAAAACGATTCTTACGTGAAGCAGAAAAAATGTCAATAGAATTATATTTCCCAC
TTAAAATCTGGAAAGCTATTCTCTATATTTCAGACGGTATATCCCGCAAAATTAAGGCCG
GTAATCTATGCCCAACTGCTCCAGCAGGTGGCCGAACGTTTCAGGCGTATCGAAATACAG
GACAATCCTGCCTTTTTTGTGGTTGGCGGTTTTGACTTCAGCGTTGACACCCAGTTTTTC
AGTCAGCAAATCATTCAGGCGGCCGATGTCGGCGGCGGCAGTCTTTTTGGGCTCGGGACG
TTTGTTTTGAAGGGCGGCCTGGCTGCGGCGTTCGACTTCGCGCACCGACCAGCCGTTTTT
GACGGCCTTTTGCGCCAATTCGAGCTGTTCGACGACGGGCAGGGTCAGCAATGCGCGGGC
GTGCCCCATTTCGAGGCGGCGTTGGTAAAGCATTTCCTGCACGGGTTCGGGCAGGCTTAA
AAGGCGCAGGCTGTTGGAAATCGCGCTTCGGCTTTTACCGACGGCTTGGGCGATGGTTTC
GTGGGTCAGCCCGAACTCGTCGGCAAGGCGTTTCAAGCCTTGTGCTTCTTCGATGGGGTT
GAGGTTTTCGCGCTGGAGGTTTTCGATCAAACCCATTGCCAATGCGGTTTCGTCGCTGAT
GGTTTTGATAACGGCGGGGGATTTCGGTCAGGCCGGCAATCTGTGCGGCGCGCCAACGGCG
TTCGCCTGCAATCAGTTCGTATCGGGACAGTCCGTGTTCGCGCACGATGACGGGCTGTAT
CACGCCTTGCGCCTTAATCGAATCTGCCAGTTCCTGCAAGGCTTCGTCATCGATTTGAAC
ACGCGCCTGATAGCGGCCGGGCCGGATATCTTTAACCGCAACCGTGGTCAATCGGTCGCC
GCTGCTGTTGTCCGCGCCGTTGGCGAGCAGCGAATCCAAGCCGCGCCCCAATCCGCCTTT
TACTTTTGCCATACCGCCCTCCCGTGCCTATTCAGATAGGATGTTAAATCGGGTATTTTA
TCGGATATTGGGTGTTGCCGACAATTTGTATCCGCGTTTATCGGATTTCTGTTTTTTCAC
TATAATAGCCGGTTTGCCGTTGCAGGCGGTTTTATGGGAAAGGCGGATGATGGTACGGCG
TTTGATAATCGGCATCAGCGGGGCGAGCGGTTTCCAATACGGCGTGAAGGCTTTGGAACT
TTTGCGCGCGCAAGATGTCGAAACGCACCTTGTGGTATCGAAAGGTGCGGAGATGGCGCG
CGCTTCGGAAACGGCTTATGCGAGAGACGAGGTATATGCCTTGGCGGACTTCGTGCATCC
GATCGGCAATATCGGGGCGTGCATTGCCAGCGGTACGTTTAAAACGGATGGGATGCTGGT
CGCCCCCTGTTCGATGCGGACGCTTGCCTCTGTCGCGCACGGCTTCGGCGACAATCTGCT
GACGCGTGCGGCGGATGTGGTTTTGAAGGAAAGGCGGCGGCTGGTGCTGATGGTGCGCGA
AACGCCGCTGAACCTTGCCCATTTGGACAATATGAAGCGGGTAACGGAAATGGGCGGCGT
GGTGTTTCCCCCTGTTCCTGCGATGTACCGCAAACCGCAGACGGCGGACGACATAGTGGC
GCACAGTGTTGCACACGCTTTGTCGCTGTTCGGAATCGATACGCCGGATTCGGCGGAATG
GCAGGGAATGGCGGATTAAAGGACAAAAATGCCGTCTGAACACGGATACAGTTCAGACGG
CATCATTTTATACGACTGCCTTATTTGGCTGCGCCTTCATTCCATGCGGCAGGGGATTTG
TAGCCCTCGAAGCGTTTGTGCGCGTAGGCTTTGAACGCGTCGGAGTTATAGGCCTCGGTT
ACGTCTTTAAGCCATTGGCTGTCTTTGTCGGCGGTTTGACGCCAGTTGACATAG
GCAAAGCTCGGTTCTTGGAACAGGGCTTCGGTCAGCTTCATGCCGCTGCTTATGGCGTAG
TTGCCGTTGACGACGGCAAAATCCACGTCGGCGCGGCTACGCGGCAGTTGCGCGGCTTCA
AGCTCGACGATTTTGATGTTTTTCAGGTTCTCGGCGATGTCCGCTTTGGATGCGGTCAAC
GGATTGATGCCGTCTTTGAGTTTGATCCAACCCAGTTCGTCGAGCATCACCAAGACGCGG
GCGAAGTTGGACGGGTCGTTGGGCGCGGATACGGTGCTGCCGTCTTTGACTTCTTCCAGC
GATTTCAGCTTGCCCGGGTACAGTCCCAAAGGCGCGGTCGGCACTTGGAAGACTTCGGTG
ATGTCCAGATTGTGTTCTTTTTTGAAGTCGTCAAGATAGGGTTTGTGTTGGAAGACGTTG
ATGTCCAACTCGCCCTCAGCCAATGCCAGATTCGGGCGTACATAGTCGGTAAACTCGACC
AGTTTGACGGTGTAGCCTTTTTTCTCCAGCTCGGCTTGGATTGTTCTTTGACCATATCG
CCGAAGTCGCCGACGGTCGTGCCGAAGACGATTTCTTTTTCGCCGCCGCCGGTTGTCGGCG
GCGGCAGAAGCGGATGCGGCGGGCGCGCTGTCTTTTTGACCGCCGCAGGCGGCGAGGATG
AGCGCGAGTGCGGCGGCGGAAAGGGTTTTGAAGAAGGTTTTCATATTTTCTCCTGATGTT
GTGGCAGTTTCAAACAAAAATGACGGGCAGGGAGTCCTGCCGTCCGGATTCGGCGTTCAG
ACGGCATTTGCCGCGAACAGGGGGATTTTATAGCATTTTTCGGATAGCGGTGGGGGTTTT
GGCGTTCAGACGGCATTCGGGTTCAACGTTTGTCGAGTTTCCGCGCCAACGCGTTGCCGG
TGCTTTGAATCAGGATGACCAGCAGCACGAGGAGGCGACGATGAAGATGATGACTTCGG
TTTGGTAGCGGTAGTAGCCGTAGCGGATGGCGAGGTCGCCCAAGCCGCCGCCGCCTATCA
TCCCTGCCGCCGCGCTGTATGACAAAAGCCCGATGGCAAGCACGGTAATGCTGGAAACCA
·TGCCCGCGCGCGCTTCGTTCAAGAGGACTTTGCAGACGATGGCAATCGGCGGCGCACCCA
TCGCGGCGGCGGCGGCTTCAATTACGCCTTTGGGGACTTCGCGCAGGTTTTGTTCCACCAGTC
```

Appendix A   -455-

```
GGGCAAAATAAAACAATCCCGACACGCTCAACACCAGCGAGGCGGCAACCGGACCGATGG
TGCTGCCGACGATGGCGCGTGTGGCGGGTATCATCGCAATCATCAGGATGACGAAGGGGA
AGGCGCGCATGAGGTTGACGAGGTTGTCGAGCAGGAAGTTCACCAGCTTGTTGTAATGCA
GTTGGCGGCTGGAGGTTACGAAGAGCAGCACGCCCAGCAGCGTGCCGAAGATGACGGCGA
ATGTGGTGGACAAGCCGACCATCACGAAGGTTTCGCCCAAGGCGCGGAAGATTTCGTCTT
TCATGCCGACGATGGTGGAAACGGCTTGTTGGAATGTTAAGTCTGCCATATCAGTCCTCC
CGAATCAGTTCGCGCCCGATGTCGGATTGGGCGTGGATTTGGTTGCCGCGTACTTCGACG
ATTTCGACGACTTTGCCTTTATCCAAGAGGGCGGCGCGGTCGCACAGGCGGCGGATGACG
CTCATTTCGTGGGTTACGATGACGATGGTTACGTTGAAGCGTTTGTTGATGTCTTCCAAA
CATTCCAAGACGCTGCGCGTGGTGGCGGGGTCGAGGGCGGAAGTGGGTTCGTCTGCGAGG
ATGACTTGGGGTTTGGGCGCGAGTGCGCGGGCGATGCCGACACGTTGTTTCTGCCCGCCG
GAAAGCTGGGCGGGATAGTGGCCGGCGCGTTCGGTCAAGCCGACGATTTCAAGGCATTCT
TTAACGCGCGCTTTGATTTTTTCAGACGGCCATCCGGCGATTTCCAAAGGAAAGGCAACA
TTGTCGGCAACGGTGCGGTTGCTCAAAAGATTAAACTGCTGAAACACCATGCCGATATTC
TGCCGAGCCTGACGCAATGCGGCGGCATCGAGCGCGGTCAGCTCTTGTCCGCAGACGTTG
ACCTTGCCGCTGTCGGGGCGTTCCAACAGGTTAATCAGGCGCAACAGGGTGGATTTGCCT
GCACCCGAATAACCCATCAGCCCGAAGATTTCGCCGTCGCGGATTTCGAGGCTGGTCGGC
TCGACGGCGGCAAAACGGGTCTTGTCGCGCGTTTGGTAATGCTTGGAAACCTTGTCCAAA
ATAATCATTGTCTTTCCCATACAACAAAGCCCGATGTCGGACACAACGGGCGCGGAAGAT
AAAGCTGAAATTGTCGGAACGCTTTAGCTGTTATGCCCGCAAGCTGTGTCAAATCGGCAG
GTTAATTTTCGTAGGATATTATCGGGAAAGCATTTTTTTGTCAATAAAGCAGGAAGCGGG
CAACCATTTCGGACAATGCCGTCTGAAACGGGCAAAGGCAGCGGTTCGCACCAAAACGGC
AAATAATTGAAAAACATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAG
ACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCT
CTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATAAATTATGTC
GGAAACATTCCAAAGGCGGTGCAGTTTCGGCATATAATTCGGGCAAACGCCTGTTCAGAC
GGCATTTTGTCTTTTCCAACCCTGACCGTTCAGGGTTCCGATTCTTAAGGAAATCCGATG
TACCTACCCTCTATGAAGCATTCCCTGCCGCTGCTGGCGGCCCTGGTGCTTGCCGCGTGT
TCTTCGACAAACACACTGCCAGCCGGCAAGACCCCGGCAGACAATATAGAAACTGCCGAC
CTTTCGGCAAGCGTTCCCACCCGCCCTGCCGAACCCGAAAGAAAAACGCTGGCAGATTAC
GGCGGCTACCCGTCCGCACTGGATGCAGTGAAACAGAAAAACGATGCCGCCGTCGCCGCC
TATTTGGAAAACGCCGGCGACAGCGCGATGGCGGAAAATGTCCGCAACGAGTGGCTGAAG
TCTTTGGGCGCACGCAGACAGTGGACGCTGTTTGCACAGGAATACGCCAAACTCGAACCG
GCAGGGCGCGCCCAAGAAGTCGAATGCTACGCCGATTCGAGCCGCAACGACTATACGCGT
GCCGCTGAACTGGTCAAAAATACGGGCAAACTGCCTTCGGGCGTGCACCAAACTGTTGGAA
CAGGCAGCCGCATCCGGCTTGTTGGACGGCAACGACGCCTGGAGGCGCGTGCGCGGACTG
CTGGCCGGCCGGCCAAACCACAGACGCACGCAACCTTGCCGCCGCATTGGGCAGCCCGTTT
GACGGCGGTACACAAGGTTCGCGCGCAATATGCCCTGTTGAACGTCATCGGCAAAGAAGCA
CGCAAATCGCCGAATGCCGCCGCCCTGCTGTCCGAAATGGAAAGCGGTTTAAGCCTCGAA
CAACGCAGTTTCGCGTGGGGCGTATTGGGGCATTATCAGTCGCAAAACCTCAATGTGCCT
GCCGCCTTGGACTATTACGGCAAGGTTGCCGACCGCCGCCAACTGACCGACGACCAAATC
GAGTGGTACGCCCGCGCCGCCTTGCGCGCCCGACGTTGGGACGAGCTGGCCTCCGTTATC
TCGCATATGCCCGAAAAACTGCAAAAAAGCCCGACCTGGCTCTACTGGCTGGCACGCAGC
CGCGCCGCAACGGGCAACACGCAAGAGGCGGAAAAACTTTACAAACAGGCGGCAGCGACG
GGCAGGAATTTTTATGCGGTGCTGGCAGGGGAAGAATTGGGTCGGAAAATCGATACGCGC
AACAATGTGCCCGATGCCGGCAAAAACAGCGTCCGCCGCATGGCGGAAGACGGTGCAGTC
AAACGCGCACTGGTACTGTTCCAAAACAGCCAATCTGCCGGTGATGCAAAAATGCGCCGT
CAGGCTCAGGCGGAATGGCGTTTTGCCCACACGCGGCTTTGACGAAGACAAGCTGCTGACC
GCCGCGCAAACCGCGTTCGACCACGGTTTTTACGATATGGCGGTCAACAGCGCGGAACGC
ACCGACCGCAAACTCAACTACACCTTGCGCTATATTTCGCCGTTTAAAGACACGGTAATC
CGCCACGCGCAAAATGTTAATGTCGATCCGGCTTGGGTTTATGGGCTGATTCGTCAGGAA
AGCCGCTTCGTTATAGGCGCGCAATCCCGCGTAGGCGCGCAGGGGCTGATGCAGGTTATG
CCTGCCACCGCGCGCGAAATCGCCGGCAAAATCGGTATGGATGCCGCACAACTTTACACC
GCCGACGGCAATATCCGTATGGGGACGTGGTATATGGCGGACACCAAACGCCGCCTGCAA
AACAACGAAGTCCTCGCCACCGCAGGCTATAACGCCGGTCCCGGCAGGGCGCGCGGATGG
CAGGCGGACACGCCCCTCGAAGGCGCGGTATATGCCGAAACCATCCCGTTTTCCGAAACG
CGCGACTATGTCAAAAAAGTGATGGCCAATGCCGCCTACTACGCCGCCCTCTTCGGCGCG
CCGCACATCCCGCTCAAACAGCGTATGGGCATTGTTCCTGCACGCTGACGTACCGATGCC
GTCTGAAACCCGCCCGGTCTTTCAGACGGCATTTTTATCCCGAACGGCATTGACGGCGAA
CCATAAATATAAGACAATCCGAAAATTGTTTTTCCTGCTTTTTCAAGCAGCTTGACACGG
CACAAGCCGACCCGTTAGGAGGTGATGTTTCCGTCACGGCGCGTATCCCGCCGCCGCAAG
GCACAGCGATACGGTAAACTTTCAACACCGTCTGCCCTACCCTTTCCACCGATATGATGG
GCAGATGAAACAACCGAATTTATTAAAGGAAATAAAATGCCTGCAATCCGCGTAAAAGAG
AATGAACCATTTGAAGTCGCTATGCGCCGTTTCAAACGCGCCGTAGAAAAAACCGGCCTG
CTGACCGAGCTGCGCGCCCGCGAAGCCTACGAAAAACCGACTACCGAACGCAAACGCAAA
AAAGCGGCAGCCGTAAAACGCCTGCAAAAACGCCTGCGCAGCCAACAACTGCCGCCCAAA
ATGTACTAAACGTTCAAGTACAGATTACAGGTCAGCCCTGTGATATGAGGACACACCGCA
AGACCTGCTCTGCGGTGTGTTTTGCTTTTCAGACGGCATCGAAACCCGCCGTTTCCATCC
GACATCCCAGCGAGGACATCATGAGCCTGAAAATCCGCCTTACCGAAGACATGAAAACCG
CGATGCGCGCCAAAGACCAAGTTTCCCTCGGCACCATCCGCCTCATCAACGCCGCCGTCA
AACAGTTTGAAGTGGACGAACGCACCGAAGCCGACGATGCCAAAATCACCGCCATCCTGA
CCAAAATGGTCAAACAGCGCGAAAGACAGCGCGAAAATCTACACTGAAGCCGGCCGTCAGG
ATTTGGCAGACAAAGAAAACGCCGAAATCGAGGTACTGCACCGCTACCTTCCCCAAATGC
TTTCCGCCGGCGAAATCCGTACCGAGGTCGAAGCTGCCGTTGCCGAAACCGGCGCGGCAG
GTATGGCGGATATGGGTAAAGTCATGGGGCTGCTGAAAACCCGCCTCGCAGGTAAAGCCG
```

```
ACATGGGCGAAGTCAACAAAATCCTGAAAGCCGTGCTGACCGCCTGATTGCCCGAATATC
GGACAAAATGCCGTCTGAAGCCCGTATCGCAGGTTCAGACGGCATTTTCAATATCCCAAT
ATCGAATCGGCAGGGGCAACACGGTTTTGATACGCCGAAACGGGTTTTGCCGATAAACAG
ATTCCGTTTGCGCCCCATCGGACAAAATGCCGTCTGAAACACGATTCCGTTCAGACGGCA
TAGATTTATTTGACCAATTTCAAGCCTTTTTTGGCGGGTCGGGGCGCGGTTTCGGCAGAG
GTGTTTTCAGGCGGCGTATCGGGGCGGTACGCTTCCAACTCAAACCCCATACCTTCTCCG
GTCTCCCGTGCGAAAAGGCTGAGGACGTGTCCGACAGGTATCCATATATCGTGCGCCTGT
CCGCCGAAGCGGGCGGAAAAGCTGATCCAATCGTTGTCGATTTGAAGGTTTTGCGTGGCG
GTCGCGCCGATGTTGAGCATAATTTCGTTGTCGCGGACGTACTGCATGGGGACGCGCGTG
TGTTCGTTGACCCAGACAAGGATGTGCGGTGTGAGGCTGTTGTCGCTGCACCATTCGCAG
AGGGCGCCGGAGGATGTAGGGTTTGGTGGAAGTGGGCATAATGGGTTCCGTGTTGTACGCC
AAAATAGGAAAATGCCTGCAAAACGGTGGGTTTTGCAAGCATTTCGGACTTATTTGCGCA
TGGCTTTTTCGGCGGGTGTCAGTGCTTCGATAAAGGCTTCGCGCTGGAAGATGCGCTCGG
CGTATTTGAGCAGCGGCGCGGCACTTTTGCCCAGTTTGACATCGTAGTGGTCGAGCCGCC
ACAGCAGCGGAGCAAGGGCGACATCAATCATAGAAAAATCTTCGCCGAGGATGTATTTGC
TTTTGCTGAACGAAGGGGCAAGCATGGTCAGACCGTTGCCGATGGCTTCGCGCGCTTTTG
CCTGTTCCTTGTTGGTGGCGGCGGGGTTTTCTAACACTTGGACGTGGTTGAACAATTCTT
TTTCCATACGGTACAGCACCAGCCGGCCCCGACCGCATAACGGGATCGCCGGGCATCA
GCTGCGGATGGGGGAAGCGTTCGTCAATGTATTCGTTGATGATATTGGACTCGTGCAGCA
CCAAATCGCGCTCGACCAGCACGGGAACTTGGTTATACGGATTCATGACGGCGAGGTCTT
CGGGTTTGTTGTAAATATCGACGTCTTTGATTTCAAAATCCATACCTTTTTCGTACAAAA
CGAAGCGGCAGCGGTGGCTGAAGGGGCAGGTAATGCCGGAATAGAGGGTCATCATAATAA
TTGTCGCTCCTGTGTGATGCCTGCAAAACGGCTGATTTATAGTGGATTAACAAAAACCAG
TACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCGAG
TGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGT
TAATCCACTATATAAAGGTTTAATCGCGCAATTATACGCGATTTCCGGCACTTAATCCAG
AAAATTCGGCTCAATCTGTTGTTTTTTATATATTTTCCCCGATTTTCCGTATCAGTGCGAA
CTTACTGTCTTTGTTGCGCGGACGCGCGCACCCTGCCAAACCGTCTGCCAGCCTTGCGGCGC
ATCCGCATTTTGGGGCAGGAGGACGATGCGGTAGCGGCATTGTACATCGCCGACGCGGTG
CGGCAATGTGCCGTACTGCGTCCAAACAATCCGCGTGTGCAGGTCGCCGCCGCCTATGCC
GATACACTCGATGCCGTCTGAAAGCTCCCGTTTCAATTCCGGGGAAAGCGATGCCTCCAT
ACTCCGGACGACCGGCGCGTGGCTTTTCGCCGCGTCCAGCCACGGCAGGAACAGCGTCAT
CAGCAAAGCCCAGGTCAGGGTAACGCCTGCCGCCCAGTTGGTAACCGCCTGCCTGCCGCG
TATGTTTTTCCGGGTAATCGCCCACAGCCACAAGGGTGTGAACAGTACGGCAACCGCCAT
CGGAATGGGATCGATATCAGGAACATAATACGGGCTGAAATAGGCGGCGCGTTCGGCAAG
CTTGGCGGGCCAGCCGTAATTCATGGCGAAAAAGCCCGTCCACAGGAACACGGCAAACAG
TCCGAACGCCATAATGCCGAACCAGTTGACAAACGCCGCCGCGCCGCGCCTCAGGCTGTC
CAGTTGCGCCGCGCCGAACAGGGCAAGCGGCGGAAGCAGCCAGACGAGGTTATCCTGAAA
ACGCTGCGGATTGACGGCCAAGCAGCACCAAAACGGCAAGCATCCAGACGACGCCCAAAAT
CCCCCAGTCGGTCGAAAACAGGCGCGTGCGGCAAACCGTCCAAACCGCCAGCGGCAGCGC
GGGCAATGCAAACCAAAGCAGGTTTTTCAGATAGTAAAACAAACTGAATGCCGTCTGAAC
GTGCCGCACGCCGCCGAACGTACCGAAAACGTGATAGTCGAGCCATTGCGCGAACAGCGC
GGGCTGCGTTTTTGCCAAGAGCAGCGGGTAAACGGTCATAAGCGGCAGGGCAAAGGCAAG
TGAGGCGACTGCCGTCAACATCAAACGCCTGCTTTGCCACGGACGGAAAAACATCAGTAC
GGGCAAGGGCAGCATCAGGGCAAATGCTGCCGGATAAGCTGCTGCCAACGACATCAGCGT
CCAGCCCGTACCGAGCAGAAAAGAGGCGGCAATCACGCGCCGGCGAGCCAAAGAATAACC
GTGCAGCACCAGTCCGGCGGCGGCAAAGGCGGCGGCAGCGGGGTTGAGGAAATGGGCAAC
TGGAATCAGCCCGATACAGCCGATGAGAATCAGGACGACGCTGCGCCCGTGGTGTCTGCC
CAAAAAGTTGAAACCGGCAAAGCCGCAGGAAGTCAGTCCGATAACGGCAAAAAATACGCC
TGCAAAGCGTGCGGCATCGTATGAGTCGGCAGCCCACGGCGACAGCAAATGTTTGAACGC
GGCGGCAACCCAAAGATACACGGGCGGTATGCCGAAATCGGTTTGACCGAACAGATGGGC
AACCAAGGGGGTGGGGCTGCCTGCCAGTGCTTCGACGGCGGTATAGACGGCAGGTTCGTC
AGGATTCCACAAATCGTGGGAAAACACGCCGGGCCACAACCAGGCAAACGCCATCAACAG
CAGCAGCCACGGCTTTTCGTGGGTTTTGGCGGGCGGCGGGCATCGGGCGGGGTATAGGT
CAGCATAAGCGTGAGAAAAAATGGACGGATTGCCAAGTGTAGCAAATATTCGCACAAAGG
TCGTGCAGAGACTGCTTCAGACGGCATCAGACACAAAAAGACCGGCAACAAAAAAGACTG
CACATGGCAGTCTTTGCAGATACTATCTTTTTCATAATATTTTTTCCTAGCCCAACACAG
TCCATAGCATATCAAAACTGTTGTTTTCAACCAGGATATATATCCCCAATCCTAAATAAA
CAACAGCAACAAACCATCTGCTATATTTTTCCAAAGTTTCTCCAACAGAAGGGACTTGTG
CTAATTTTTGGGCAGAAAAAACCAAGAGATAAATCATGACTAGAAAGGTAAGTAAAGCCA
CTATCAAATTCGCTAAATTTAAGGTAGTAAAATATGGGACAAAGACACCAATATTGTCAG
CACCCACAACTTGCAAAAGTAATCATAGCGACTAGAAAAATCAGGTTTTTATTATCTTTGC
GCAAACCCTCTTTGGCAATAGCCTCTCCATCAGAATCTCCTAAAAGCAAAACTTTGATGC
CTAGGAGAATTGGAATCAAGCCGAGCAAACCTAAAATCTCTTTACTAGGAATATAATCTA
AGACAAATGCAAAAAGTAAACTTAGCAATATCAGACTAACAGAGCCTAGAAATTGTCCTA
AATAGATGTTAATGATGTCTTTTCTACTTTTTCTTTTGGCAAAAAATAACATTAGGATAA
TAAGTAAGTCTACGGCTGTCCCAGAATACAGGATTATTGAAGTAACGACATTTTGAATCA
TAAAACATCTCATTCAAATATATTTTTAAATGTATTCAAACATTAAACCTTGTAGATGTC
AACTTCAACCCCGTCAAAATATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCT
TAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCGAATCGGTTCCGTACTA
TTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATAGATA
AGAAGTCAGTGTGCCAAATATTAAAAAGCCCTGCCATCGAAATGATGGCAGGGCTTAATT
CTTGCAAAGCGGCAATCAGCGTTTGAACAGGTTGCCGAATTTGTTGTTGAATTGTCCAC
GCGGCCGGTGGTATCAACGATTTTTTGGGTGCCGGTATAGAACGGGTGGCACAGGGAGCA
AACCTCGATATTGAAGTTTTCTTTTTCCATCGCGGATTTGGTTGCGAATTTGTTGCCGCA
```

```
AGAGCAGGTAACGTTGACTTCGTGGTAGTTCGGGTGAATACCTTGTTTCATTTGATTTCC
TTTCAAAAAAGCGGGCATAGGGGATGTACCTATGCTACAGACAAGTCCGACATTCTCGCT
ATTTTCTGTTGTTACGTCAAGAGTATATTCGATAAAATGTATAGTGGATTAACAAAAACC
AGTACAGCGTTGCCTCGCCTTGCCGTACTATCTGTACTGTCTGCGGCTTCGTTGCCTTGT
CCTAATTTTTGTTAATCCACTATAAAAAGTTCTTTTGAGGGAGGTTTGATGGGATCAAAA
TTCTTTTTCCTGCTGCTGCGTTTTGCCGGTTCGGGGTTGCCGCCGTCACATATGCGCGGC
ATCGGCATCGTCGGCAGACGGGTGCGCGGTTTTTGGCGCGGCGGGTTTCTCCGCATATC
GGACGCGGGGTCAATATCGAACGCGGGGCGTATGTGTTTCCGGATACGGTTTTGGGCGAC
GGCTCGGGCATCGGGGCAAACTGTGAAATCTGCCGTGGGCTGGTGGTCGGCAAAAATGTG
ATGATGGAGCCGGAATGTCTGTTTTATTCAAATAACCACAAGTTTGACCGTTCAAAAAAC
GCTTTGAGGGCTACACGGAAATCCGTCCGATTACGTTGGAGGACGATGTCTGGCCGGGGC
ACAGGGTGATTGTAATGGCGGGCGTAACCGTCGGACGCGGTTCGGTCGTGGGCGCAGCGC
GGTGGTTACAAAAGACATTCCGCCCTACTCTTTGGCGGCAGGCAATCCGGCAGTGGTGAA
AAAGAATCTGCCGGAAGGTTGAATGCCGTCTGAACGTGTCGGGGCGGATGATCTGAAAAA
ACAGGAACATCGTTTCTGTTTTTGCGCTTCAGACGGCATCGCTATTGCGCCACGCGGTA
TCGATTTCTTGGTAGAGTTTGCCGAAATCGGGTTCGCCGACGTAGGTTTTGAGGATTTCG
CCTTTTTTGCCGATAAGGACGGAAGTCGGATAAACCTGTGTGCCGAACGCCTGTCCGACA
GCTTTGTCCGCATCATACATGACGGTAAACGGCAAACCGTAGTCTTTGACATATTGGCGG
ACGCTTTCTATCGGATCGATGGGCTGGGCGACGGCAAGTACTTGGAAGTTTTTGTTTTTA
TAGTCATTTGCCGTTTTAATGATTTTGGGCATTTCGCTCACACAACCCGGACAGGAGGGA
AACCAAAAATTAATCAGGGTTACTTTGCCTTGCAGGTCGGCGTTGGAAACGGTTTTTCCG
TGCAGGTCGGGCAGGGAGAAGGCGGGCGCGGTTTTGCTGTCGGGGATGAGGACGATGGCA
AGGAGGATGCCGATCAGTGCGACGACGGCGGCGGTGAGTATTTTTTTCATTCGGACAAGG
CTTCCAATGCGCGGGCAAGGGTGGCGGGCAGGCTGACGGTGCGTTGTGTGGCGGCGTGGA
CGGGCATCAGGGTGATGTCGGCTTCTGCGGCGGTTTTGCCGTTTGGCAGTGTAATCGTCT
GGGTCAGCACAATACGGCGCGTGCCGGGGGTTTTCAGGCGGCATGAAAACTGCAATACGT
CGCCTTCGACGGCGGGGCGGCTGTATCGGATGTCGATGCGGGCGACAATCAGTATGAGGC
CTGCCAACTCGTGCAGCAGTCCGCGTTCTTCAAAAAACGCCCAGCGCGCTTCTTCGAAAA
ATTCGAGGTAGCGCGCATTGTTGACATGGCCGTAGCCGTCGAGATGGTAGTTGCGGACGG
TCAGCTTCATCAGTTCAGGTTGATGGGTTGGAAGGCTTCGCGGGCAAGCGGTTCGTGTTC
GAGGTCGGTGATGACGGTAGAAAGCTGGATCTCGAACCATTCGTTGAAAATGTCGGCATC
GAGCGCAGGCCACTCGCGTTCGTCTTCGCACCAGTCGGCAAGTTCGGCGGCGAAAATGTC
TTCAAAACGGGCTTCGATTTCGTCCCATACTTCGTCGGCGGTTTCGCACGGGCGGACAAG
GTAGGAATTGGCGTCGGCTTGGATGTCTTCAAGAGTCAGTCCGTCGAGGTGGTTGCCCGG
CAGGGTTTGCAGCCAGTTCCAAAAAGGTTCTAAAGGGATGAGGACGAATACGCTGCGGTT
GACTTCGTACATGGTTTTTCCTTTGCTGTCGCGCGGTATGCGCAAAAAAGAGATTATAGC
CCAATCTGTGGTTTCGGACTGTCCGTTCCGACAGAAGGGAATGCCGTCCGAACACGGATT
TTCAGACGGCATGGCTTTAAGGTTGTGTTCCAGGTTGCGTTTCGGCTTCCCCTGCTGCTT
CTGCCTGTGTTTCGGATACGGAATCTTCTTGAACGGCAGTTTCCGCCGCGCCGGTTTCGG
CACTTTCGACCAATTCGTCGATGTCGATGTTATCTTCCGTACCTTCGGCAGGTGTTGCAC
CGGTCTGCCGCGCACGGACTTTCATATAGAGGTCGCGCGTGTAGCTGTATTTGTCGATGG
CGGCTTCGTCCAGACTGTCGGTCAAATCGAGCAGGCCTTCGCGCGTACTGACGGCGGATA
CGGCAGTCGTGCCCCAGCGTCCGACAGGGGTGCGGAAGACGATATTCTTGGGCGAATAAA
CGGAGGTAATACCCGTGCCGAGCGCGTCGCGGACGGTGGACGGCCCTAAGACGGGCAACA
CGAAATAATTGCTGTTTTTCCATCCCCACGAGGCAAACGTGTCGCCCAAGGTGTTTTTAT
TGTCGGGAATGCCGCCCGCGCCGGCGATGTCGATAAGCCCGCCCAAACCGAAAGTGGTGT
TGATGCCGACGCGGACAAGGTCTTCGCTTGCGCGTTTGATGTCCAAGCGCAAGATATTGC
TGCCGAAGCTGACCACGTCGCACAGGTTGTTAAAAAAATTGGACACGCCGGCGCGGACGG
GTTTCGGCGCAACTTTGCGGTAGCCGCGCGCGGCAGGGCGGAAAATGTAGCGGTCGGCTT
GGTCGTTGAATTTGAAAACGGCGCGGTTGTAGCCTTCATAAGGGTCGGCGGGCGGGTTT
CGGCAAATGCAGGGGCGGAAGCGAACCCGATCAGCAGGAGGAAGGCATAGGCGGTTTTTT
TCATGATTTCAGCCAGTCTTTGATTTCGTACAGTTCGGACAGCGCGCGCACGGATTCGGG
AATGCCGGTCAGCCTGACGCTGCCTTTGCAACCGCGCAGCACTTCGAGCAGCAGCGACAC
GCAGGCGGAATCGGCGCGTCCGACGCCGCTCAAATCAACCGCGCAGGTGTCTTTCAGACG
ACATTGCTGTCTGAAGCGGGTAAAAGCGGCGGCGGTCAGGGTTTTGACGGTGATGTCGCC
GCCGATGTGCAATATTCCGTTTTTGAGTTCTGTATGCATAGCGTTTGCTCGGAAAACCCA
TACCGCCCTCGGACGGTATGGTTTGTCGGTTATTTGCCGCCGTTTTTGGCTTTCAACTCG
GCAATCAGTCCGTCCACGCCTTTCGCTTTGATAATTTCGCCGAATTGGTTGCGGTACACG
GTAACCAGGCTCGCGCCTTCGATGGCGACGTTGTAGGTACGGTATTTACCGCCGCTTTGG
TAGGTGGTGAAGTCCATGTTGACGGGTTTTGCCCGGGTACGCCGACTTCGGCGCGGACG
ATGATTTCTTTGCCGCCTTTATTGACGATGGGATTGTCTTTGACGTTGACGTTGGCGTTT
TTTAATTTCAGCATCGTGCCGGAATAGGTGCGGATCAGCAGGGTTTGAAATTCTTTGGCC
AACGCTTGTTTTTGCGCGTCGGACGCGGTGCGCCAAGGGGTTGCCGACCGCCAATGCGGTC
ATACGTTGGAAATCGAAATAGGGAATCGCATAGGCTTCGGCTTTTTGGCGAGCGGTGTTG
GCATCGCCGTTTTTTAAGATGCTCAATACTTGAGTGGCGTTTTGACGATTTGGCTTACC
GCGTCGGCAGGGGCGGCAAATGCCATGCCGATGCTCAAAATACCGATGCCCAATGCGCTG
ATGAGGGAGGATTTTTTCATGATTAAGTGTCCTAGTTTGAATATGATGGCATACGTTTAT
TCGGCGGCTTTTTCCGCATTGCCGCCGTCGGCATTTTTCTCGGCAAAACTCGTCATGAAT
TTGCCGATAAGGTTTTCCAGAACCATTGCAGAACTGGTTACGGAGATGGTGTCGCCGGCA
GCAAGGTTTTCCGTGTCGCCGCCCTGCTGCAGCCGATGTACTGCTCGCCCAAAAGTCCC
GAAGTCAGGATTTGCGCGGAAACGTCGCTGCTGAACTGATACTTGCCGTCCAAATCGAGG
CGCACCCTCGCCTGATAGGATTTCGGGTCAAGTCCGATAGCGCCGACGCGCCCGACCAAT
ACGCCTGCGGATTTGACGGGGGCATTGACCTTCAAACCGCCGATGTCGCCGAAATCGGCA
TAAACGGCGTAAGTTTTGTCCGAACCGCCGAACGCCGCACCGCCGGCCACGCGGAAAGCG
AGAAAGGCAACCGCCGCCGCGCCAATCAGGACGAACAGTCCGACCCAAAATTCCAATATG
```

Appendix A   -458-

```
TTCTTTTTTCATTAAAGTTCCTTGAATATCCGATGTTCCGCGTTTCGTCTTCAGACGGCCT
GTCAATCTGTAAACATCCACGCGGTCAATATAAAATCGACCGCCAAAATCGTCAGGGCGG
ACGAAACCACCGTGCGCGTGCTGGCGCGCAAAATGCCTTCCGAAGTCGGGACGCAATGGA
AGCCCTGATGCACGGCAATCAGCGTTACCGCCACGCCGAACGCGGCGGATTTGATCAGAC
CGTTGATTACATCGTAATGTATCGTGATGTTGTTCTGCATTTGCGACCAGAAAATACCGC
TGTCCAAGCCCAGCCAGGTTACACCAACCAAATACGCACCGAAAATGCCCGCCACGTTGA
AAATCGAAGCCAAAAGCGGCATGGAAAACACGCCCGCCCAAAAGCGCGGCGCAACCACGC
GGGCGACAGGGTTTACCGCCATCACATTCATCGCTTCGAGCGTGTTCGGTCGTTTTCATCA
GACCGATTTCGCTGGTCATCGCACCGCCCGCGCTGCTGGCAAACAAAATCGCTGCCAATA
CCGGACCCAGCTCGCGCAATAGCGAAGCCGCGACCATATAGCCCAAAATATCGGCGGATT
TGAATTTCGACAACTGCGTATAGCCCTGTAAACCCAAGACCATGCCGACAAACAGCCCCG
AAACGGCAACAATCAACACCGACAGCACACCGGCGAAATACACTTGGCGCACGCTCAGGC
GCGGACGGACGAAAGCCGTACCGGACTTCGCCAGAATGTTCAGCAGAAACAGCGTGATAC
TGCCGAGGGGATTGAATAAGGCCGAGGGTTTTCGCCCCGACGGAACGGATAAAGTTCATAA
ATTTCTATGTGTAAAGTTCAACGGTTTCAGACGGCATCAACTCATTTATCCCAACAGGTC
CTGCTGCAACGACGTTTGCGCCGGATAACGGTATGCTACGGGGCCGTCTGCCAGCCCGCC
GACAAACTGGCGCACCCAAGGCGAATCCAGTTCGCGCATTTCCTGCGGCGAGCCGGAGAA
CATAATTTCGCCGTGCGCCAAGAAAATCACCTGATCGACGATTTCCAAAGATTTTTCAAT
GTCGTGCGTTACCATAATACTGGTCGAACGCAAAGCCTTGTTGACGCGGCTGATCAAGTG
GGCAATCACGCCCAAGGAAATCGGATCGAGGCCGGTAAACGGCTCGTCGTACAACATAAT
TTCAGGGTCGAGCGCAATCGTGCGGGCAAGCGCGACGCGGCGCGACATCCCGCCGGACAA
CTCGGACGGCATCAGGTTTTCCACACCGCGCAGACCGACCGCGTTCAATTTCAACAAAAC
CAAATCCCGAATCACCGCTTCCGGCAGGCGCGTCAGTTCGCGCATCGGAAAAGCGATATT
GTCGAATACCGACAAATCAGTAAACAGCGCGCCGTGTTGGAACAATACGCCCATACGGCG
GCGGTGTTCATACAACTCGTCAGCCGAAAAGCCCGCCAAATCCCGTCCTTCAATCAAAAC
CTGCCCGGACTGCGGACGAATCTGTCCTGTAATCAGTCGCATCAGCGTGGTTTTGCCGCT
GCCCGAACCGCCCATTACGGCAGCAAAATTGCCTTGCGGAATGCTGAAATTGATGTTCTT
CAGAATCGGGCGGTCGCCATACGCGAAGGCGACGTCTTTCATTTCGATAAAGGGGGATGG
GCTCATGTACGGACGGACGGTAGGTTTGACGGCGTGTATTTTAAGGCTTATCGGGAAGAC
GGGCAATTTTCAGACGGCATACGGACGGTAAATGTTGTGAAAATGCCGTTGTCGGCGGCG
GATTGTTTGCTGTGGCGAAAAATGTTATCTTTCAAATGATAACCTTTATCAGAAAACTAT
GGAAAAAGCAGAACATTTGAACAGCAGCCGGTTCGTCAATCTAGTCAAAAGCGGCGGCGG
CAGCTATGTGGAGGGCAGCTACCGTTTCGATACTTTGTCCAACGGCATTTCCATCCACGG
CGGCACAGTAACGGCACGGTGTGATTTTTGCAGCAGCCGCCTCGCCGAACCTTATGTGTC
GTTCGTGCTCTTGCTGGAAGGCAGTTTGGACTTCGGCATCAACCGCTGCCGCTTCCAAAT
CGATGCGGACGGCGGCAAGATTGTCCTAATTGCTGTCGGGGAAGAAGTCCTGTTCAGCCG
CTATCTTTACCGAGGCGGCAAAACGGTCAAAATGACCATTAAAGGTATGGAACAATGGCT
GCTGCGTCCGGAATACGCGCGTTTCGCACCCCTGCTTTACCGCGAACCGGTCAGGATATG
GGATTTGCCCCCGAACCTGCGCGGCTTGGCGGCATCCTGCCTGAAAGCCGTCCCAAAGGG
GCATTTGGGCGAAACATTGCGCCGCGAGGCGGACGTGTTGCGGCTGCTGTCGGACTTGTG
GGACACGGTTTCAGACGGCATCGGGCCGGCGGCGGGGCAAACGGCGGAAGCAGACGCTAT
GCCGTCTGAAGACTTCAGCCGCACCCTAAATGCCGCGTTTGCCGACGGCGCACACCAAGT
CAACCGGCTGACAGACGCGCTGAACATCAGTGAAAGGACGCTGCAACGCCGTATGCGCGA
CCATTTCGGCATTACGGCAAGCGAATGGCTGCACCACAAACAAATGCAGCACGCGCTCTA
TCTGTTGCAAAACGGGGGAAAAAGCATAGGCGAAACCGCATATTTATGCGGCTACCGCCA
CGTTTCCAGCTTTACTCAGGCATTCAGGCAATATTTCGGCAGCACGCCTGCGGAAACCAA
AAAAGAAAACCGGTAAGCCGCATTTGATTTCAAACCCGAAATCCGCGTGTATAGTGGATT
AACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAAGTGC
TCAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGCTCTGCGGCTTCGTCGCCTTGT
CCTGATTTTTGTTAATCCACTATAAAAAACTTGTACGGCAATTTATTTGGGAATAAACTA
AAACTACATCTAACTACAAAACTGGAGAACCCGAAATGAAACAATTGGCCATGTACATCA
ACGGACGCTTTGAAAACGATTTCAACGGCGAATGGCGCGACGTATTGAACCCGTCCACCG
AAGAGGCCATCGCCCGCGAACCCAAAGGCGGCAAGGCGGACGTTGACCGCGCCGTCGCGG
CGGCGCGTGCGGCGCAACCGGCTTGGGAGCGTCTGCCTGCGGTCGAACGCGGCGCGTATT
TGCGTAAAATCGCCCAAGGCATACGCGAACGTGCCGACGAGCTGACCGACACCATCGTTC
CCGAAGGCGGCAAAAACCAAAGACTTGGCACGCGTGGAAGTCATGTTCACCGCCGACTATC
TCGATTATCAGGCCGAATGGGCGCGCCGCTACGAAGGCGAAATCATCCAAAGCGACCGCC
CGCGCGAAAATATTTTATTGTTCAAACGTCCGCTGGGCGTAATTGCCGGCATTTTGCCGT
GGAACTTCCCCTTCTTCCTGATTGCCCGCAAAATGGGCCCCGCTTTGGTAACGGGCAACA
CCATCGTCGTCAAACCCAGCAGCGTAACCCCGAATCAACTGCCACATCTTCGCCGAAATCG
TCGATGCGGTCGGACTGCCCGCAGGCGTGTTCAACGTGGTGAACGGTCCCGGCGCGGAAA
TCGGCAATGCCTTGTCCGCCCATCCGCAAGTCGATATGGTCAGCCTGACCGGCTCCGTCG
AAGCAGGCCGCCAAGTGATGGAAGCCGCCTCCGCCAACATCACCAAAGTTTCGCTGGAAC
TCGGCGGCAAAGCGCCTGCCATCGTTTTGAAAGATGCGGATTTGGACTTGGCGGTGAAAT
CCATCTTGGCTTCGCGCGTCGGCAACACCGGTCAAATCTGCAACTGCGCCGAGCGCGTCT
ATGTCCACAGCAGTCTGAAAGACGCATTCATTGAAAAAAATGACCGCCGCGATGAAAGGCG
TGCGCTACGGCAACCCTGCCGAAGCCGAAGCAGGCGCGCTGGAAATGGGCCCGCTGATTG
AAGAACCGCGCCGTCAAAGCCGTTGCCGAAAAAGTGGAACGGGCAGTCAAACAAGGTGCGA
AATTGGTTTGCGGCGGCAAACGCGCCGAAGGACGCGGTTATTTCTTCGAGCCGACCCTGC
TGACCGACACCGACAACAGTATGGACATTATGAAAGAAGAAACCTTCGGCCCCGTGCTGC
CCGTTTCCGCTTTCGACACGCTCGACCAAGTCATCGCCTTGGCAAACGATTGCGAGTTTG
GTCTGACCAGTTCTGTTTATACGACTAATTTAAACGAAGCCTTCTACGTTACCCGCCGCC
TGCAATTCGGCGAAACCTACATCAACCGCGAAAACTTTGAAGCGATGCAGGGTTTCCACG
CCGGTTGGAAAAAATCCGGTATCGGCGGCGCGGACGGCAAACACGGTTTGGAAGAATATC
TGCAAACCCAAGTCGTTTATTTGGAAACCGACATTTAATGCCGCTTTAAAACCCCGATAG
```

Appendix A   -459-

```
AAAATGCCGTCTGAACCCGTTTTCAGGTTCAGACGGCATTTTTATTGCTTCACCGGCAAT
CAGTCATGACCGAGGTCGATGTTTTTGTCTTTGTATAGTGGATTAACAAAAATCAGGACA
AGGCGGCGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTCGGTGCTTCAGCA
CCTTAGAGAATCGTTCTCTTCGAGCTAAGGCGAGGCAACGCTGTACTGGTTTTTGTTAAT
CCGCTATATTCCGCCATCTCTAAGATTTACAGCGATACACGGGTAATTTAAGGAATGCCC
AAACCGTCATTCCCGCCACTTTTCGTCATTCCCGCGAAAGCGGGAATCTAGAATCTCGGA
CTTTCAGATAATCTTTGAATATTGCTGTTGTTCTAAGGTCTAGATTCCCGCCTGCGCGGG
AATGACAAATCCATCCGCACGGAAACCTGCACCACGTCATTCCCACGAACCCACATCCCG
TCATTCCCACGGAAGTGGGAATCTAGAAATAAAAAGCAACAGGCATTTATCGGAAATAAC
TGAAACCGAACAGACCTAGATTCCCGCCTGCGCGGGAATGACGGCTGCAGATGCCCGACG
GTCTTTATAGCGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAGAT
AGTACGGAACCGATTCACTTGTTAAAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGC
CGTACTGGTTTTTGTTCATCCACTATAACTAGGGAAATTCAAATTAAGTTAGAATTATCC
CTATGAGAAAAAGCCGTCTAAGCCGGTATAAACAAAATAAACTCATTGAGCTATTTGTCG
AAAGTTCAAATTTCCATTTTAAAACAATTAGTAAAATCGAGTTTATCCTAGTTGTCCAAG
ACAACCCCTATAATAATATAATTCAAAATATAAAAATGGGTTACATCTAAACATTACGGA
ATTTTTATTCCCTCGCCTGAATTCTATTGTCAGATTCAAGGAGACCTCATCATGCGAACG
ACCCCAACCTTCCCTACAAAAACTTTCAAACCGACTGCCATGCGTTAGCTGTTGCAACA
ACACTTTCTGCCTGCTTAGGCGGCGGCGGAGGCGGCACTTCTGCGCCCGACTTCAATGCA
GGCGGTACCGGTATCGGCAGCAACAGCAGAGCAACAACAGCGAAATCAGCAGCAGTATCT
TACGCCGGTATCAAGAACGAAATGTGCAAAGACAGAAGCATGCTCTGTGCCGGTCGGGAT
GACGTTGCGGTTACAGACAGGGATGCCAAAATCAATGCCCCCCCCCCGAATCTGCATACC
GGAGACTTTCCAAACCCAAATGACGCATACAAGAATTTGATCAACCTCAAACCTGCAATT
GAAGCAGGCTATACAGGACGCGGGGTAGAGGTAGGTATCGTCGACACAGGCGAATCCGTC
GGCAGCATATCCTTTCCCGAACTGTATGGCAGAAAAGAACACGGCTATAACGAAAATTAC
AAAAACTATACGGCGTATATGCGGAAGGAAGCGCCTGAAGACGGAGGCGGTAAAGACATT
GAAGCTTCTTTCGACGATGAGGCCGTTATAGAGACTGAAGCAAAGCCGACGGATATCCGC
CACGTAAAAGAAATCGGACACATCGATTTGGTCTCCCATATTATTGGCGGGCGTTCCGTG
GACGGCAGACCTGCAGGCGGTATTGCGCCCGATGCGACGCTACACATAATGAATACGAAT
GATGAAACCAAGAACGAAATGATGGTTGCAGCCATCCGCAATGCATGGGTCAAGCTGGGC
GAACGTGGCGTGCGCATCGTCAATAACAGTTTTGGAACAACATCGAGGGCAGGCACTGCC
GACCTTTTCCAAATAGCCAATTCGGAGGAGCAGTACCGCCAAGCGTTGCTCGACTATTCC
GGCGGTGATAAAAACAGACGAGGGTATCCGCCTGATGCAACAGAGCGATTACGGCAACCTG
TCCTACCACATCCGTAATAAAAACATGCTTTTCATCTTTTCGACAGGCAATGACGCACAA
GCTCAGCCCAACACATATGCCCTATTGCCATTTTATGAAAAAGACGCTCAAAAAGGCATT
ATCACAGTCGCAGGCGTAGACCGCAGTGGAGAAAAGTTCAAACGGGAAATGTATGGAGAA
CCGGGTACAGAACCGCTTGAGTATGGCTCCAACCATTGCGGAATTACTGCCATGTGGTGC
CTGTCGGCACCCTATGAAGCAAGCGTCCGTTTCACCCGTACAAACCCGATTCAAATTGCC
GGAACATCCTTTTCCGCACCATCGTAACCGGCAACGGCTCTGCTGCTGCAGAAATAC
CCGTGGATGAGCAACGACAACCTGCGTACCACGTTGCTGACGACGGCTCAGGACATCGGT
GCAGTCGGCGTGGACAGCAAGTTCGGCTGGGGACTGCTGGATGCGGGTAAGGCCATGAAC
GGACCCGCGTCCTTTCCGTTCGGCGACTTTACCGCCGATACGAAAGGTACATCCGATATT
GCCTACTCCTTCCGTAACGACATTTCAGGCACGGGCGGCCTGATCAAAAAAGGCGGCAGC
CAACTGCAACTGCACGGCAACAACACCTATACGGGCAAAACCATTATCGAAGGCGGTTCG
CTGGTGTTGTACGGCAACAACAAATCGGATATGCGCGTCGAAACCAAAGGTGCGCTGATT
TATAACGGGGCGGCATCCGGCGGCAGCCTGAACAGCGACGGCATTGTCTATCTGGCAGAT
ACCGACCAATCCGGCGCAAACGAAACCGTACACATCAAAGGCAGTCTGCAGCTGGACGGC
AAAGGTACGCTGTACACACGTTTGGGCAAACTGCTGAAAGTGGACGGTACGGCGATTATC
GGCGGCAAGCTGTACATGTCGGCACGCGGCAAGGGGGCAGGCTATCTCAACAGTACCGGA
CGACGTGTTCCCTTCCTGAGTGCCGCCAAAATCGGGCAGGATTATTCTTTCTTCACAAAC
ATCGAAACCGACGGCGGCCTGCTGGCTTCCCTCGACAGCGTCGAAAAAACAGCGGGCAGT
GAAGGCGACACGCTGTCCTATTATGTCCGTCGCGGCAATGCGGCACGGACTGCTTCGGCA
GCGGCACATTCCGCGCCCGCCGGTCTGAAACACGCCGTAGAACAGGGCGGCAGCAATCTG
GAAAACCTGATGGTCGAACTGGATGCCTCCGAATCATCCGCAACACCCGAGACGGTTGAA
ACTGCGGCAGCCGACCGCACAGATATGCCGGGCATCCGCCCTACGGCGCAACTTTCCGC
GCAGCGGCAGCCGTACAGCATGCGAATGCCGCCGACGGTGTACGCATCTTCAACAGTCTC
GCCGCTACCGTCTATGCCGACAGTACCGCCGCCCATGCCGATATGCAGGGACGCCGCCTG
AAAGCCGTATCGGACGGGTTGGACCACAACGGCACGGGTCTGCGCGTCATCGCGCAAACC
CAACAGGACGGTGGAACGTGGGAACAGGGCGGTGTTGAAGGCAAAATGCGCGGCCAGTACC
CAAACCGTCGGCATTGCCGCGAAAACCGGCGAAAATACGACAGCGCAGCCGCCACACTGGGC
ATGGGACGCAGCACATGGAGCGAAAACAGTGCAAATGCAAAAACCGACAGCATTAGTCTG
TTTGCAGGCATACGGCACGATGCGGGCGATATCGGCTATCTCAAAGGCCTGTTCTCCTAC
GGACGCTACAAAAACAGCATCAGCCGCAGCACCGGTGCGGACGAACATGCGGAAGGCAGC
GTCAACGGCACGCTGATGCAGCTGGGCGCACTGGGCGGTGTCAACGTTCCGTTTGCCGCA
ACGGGAGATTTGACGGTCGAAGGCGGTCTGCGCTACGACGTGCTCAAACAGGATGCATTC
GCCGAAAAAGGCAGTGCTTTGGGCTGGAGCGGCAACAGCCTCACTGAAGGCACGCTGGTC
GGACTCGCGGGTCTGAAGCTGTCGCAACCCTTGAGCGATAAAGCCGTCCTGTTTGCAACG
GCGGGCGTGGAACGCGACCTGAACGGACGCGACTACACGGTAACGGGCGGCTTTACCGGC
GCGACTGCAGCAACCGGCAAGACGGGGGCACGCAATATGCCGCACACCCGTCTGGTTGCC
GGCCTGGGCGCGGATGTCGAATTCGGCAACGGCTGGAACGGCTTGGCACGTTACAGCTAC
GCCGGTTCCAAACAGTACGGCAACCACAGCGGACGAGTCGGCGTAGGCTACCGGTTCTGA
CGGACAGGAAGCAGACAGCCGCAAAGATCACGGTCTTTGCGGCTGTTTCTTATGAAAAGA
AAACCCTATTCCAATTGCCTGCTTCTATTGTTTCAAGACTTCTTCCAAAGATTCGGCATT
AATCAGATGTATAGCGGATTAACAAAAATCAGGACAAGGCGGCGAAGCCGCGGACAGTAC
AAATAGTACGGAACCGATTCACTCGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAG
```

Appendix A   -460-

```
CTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCGCTATATTCCACCATCTCTAAG
ATTTACAGCGATACACGGGTGATTTAAGGAATGCCCGAACCGTCATTCCCGCCACTTTCC
GTCATTCCCGCGAAAGCGGGAATCTAGAATCTCGGACTTTCAGATAATCTTTGAATATTG
CTGTTGTTCTAAGGTCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATCCGCACGGAA
ACCTGCACCACGTCATTCCCACGAACCCACATCCCGTCATTCCCACGAAAGTGGGAATCT
AGAAATGAAAAGCAACAGGCATTTATCGGAAATAACTGAAACCGAACAGACTAGATTCCC
GCCTGCGCGGGAATGACGGCTGCAGATGCCCGACGGTCTTTATAGCGGATTAACAAAAAT
CAGGACAAGGCGGCGAAGACGCAGACAGTACAGATAGTACGAAACCGATTCACTCGGTGC
TTCAGCACCTTAGAGAATCGTTCTCTTCGAGCTAAGGCGAGGCACCGCTGTACTGGTTTT
TGTTAATCCACTATACTTGGAGCTGGTCTTGCTTTTCGCCTAATTCTACGTTTTCAAACG
GTTGCAGCTGGTGGTCTGCCATAAAGGTCTCCTTATTGTATTTCAGGTTGGAAATCGGAA
TTTGTTTTCACAATTTTACACCTTCGCCCCCGCTTTCTCTACATAAAATTACATTTTGCC
GATATTTGCCGAATTGTCTGAAAATATGTGTAATAAGGGGCGTATAATCAAAACATTTGC
CCCGGATTGCCATGCCTTATTTCGCCCTGTTTGACGATGCCGTAAGCGGCCGCGCAAAAC
GCTATCAAAATCATGTGGAAAGCCGTTTTTTCCGTCCCGAAGAACTCGATGCTTTGGACG
GCGCGCTGCAATCGGGCTGGCAAAAAGGGCTGCATTCGGTGTTGTTTGCAGACTACGGAT
TCGGTTTGCCGCTGACGGGGGTTGAGTCCGAACGCGGCGGCAATCTTGCCCTGCACTGGT
TTGCCAACTGCGCCGACATCGATGCCGAAAGCTGGCTTGCCCGACACTCAGACGGCCTCC
CCGCCGGCATTTCCACGCCGCAACCCTCCGTATCCGAAACCGATTACCTCGACCGCATCC
GCCAAATCCACGAAGCCATCCGGCGCGGCGACACCTATCAAATCAACTACACCACCCGCC
TGCACCTGCAAGCCTACGGCAATCCCGTCAGCCTCTACCGCCGCCTGCGCCAGCCCGTCC
CCTATGCCGTCTTGTCCCACCTGCCCGATGCGGAGGGGCAATCCGCGTGGACGCTGTGTT
TCTCGCCCGAACTCTTCCTCAAAATCGGTTCGGACGGCACCATCAGCACCGAACCGATGA
AAGGCACCGCGCCGATTTTGGGCGACGGACAAGACGAACGCCGCGCCGCCGAGTTGCAAG
CAGACCCGAAAAACCGCGCCGAAAACGTGATGATTGTCGATTTGCTGCGTAACGATCTCG
GCAAAATCGCCCAAACCGGCACAGTATGCGTACCCGAACCGTTTAAAGTATCGCGTTTCG
GCAGCGTTTGGCAGATGACCAGCACCATCCAAGCCCAAGCCTTGCCGCACACCTCGTTCG
CCGACATCCTCCGCGCCGCCTTCCCCTGCGGCAGCATCACCGGCGCGCCCAAAAAAATGA
GTATGCAGATTATCGAATCGCTCGAAGCCGAAGCCGCGCGGACTTTATCGGGCAGCATCG
GCTATTTGAACCCGTGTTCCGGCGGCTTGGGGTTTGAAGGCACGTTCAACGTCGTTATCC
GCACCTTGTCGCTCACGCCGCTTTCAGACGGCATTTATCAAGGCGTGTACGGTGTCGGTT
CCGGCATCGTCATCGACAGCGACCCCGCCGCCGAATATCGCGAATGCGGCTGGAAAGCCC
GTTTCCTCAACGAATTGCGCCCCGACTTCGGCATTTTTGAAACCCTGCGCGCGGAAAACG
GACGCTGCACCGTGCTCGACCGCCCACCTATGCCGTCTGTGAAAACCTCCGGCCCAAGCCCTCA
ACCTGCCCCTGCCCGACGGCTGCGAAAATCAAATCAAACAATACATTGCCGACTTGCCCG
ATGGCGCGTTCCGCGTCAAAGCCCTGCTCGCTTCAGACGGCATCAGCCTGTCCCGCGCCG
TTTTTAAACCGTCTGACCGACAAACAACGCGTCATCATTTCGCCCGCCGTCCTGCCCGCAC
AAAAACTACCTGCGCCGCTTCAAAACCACCTGCCGCGCCCTCTTCGACCAAGCGTGGCAAA
CCGCCGAAACACAAGGCGCGGTTCGACAGCCTGTTTTTCAATTCAGACGGCATCCTGCTCG
AAGGCGGCAGAAGCAACGTCTTCATCAAACATCGCGGACAATGGCTCACACCCTCTTTAG
ATTTAGACATTTTAAACGGCATAATGCGCCAAGCCGTATTGGACGAACCGCAAAAATATT
TGCAAACAAATCAAGTAATCGAAACACACATCACACAAAAAACACTGCAAGAAGCCGAAG
AAATCCGCCTCTCCAACGCCTTGCGCGGCGTATTTGCCGCCGCCCTTGCCTGAACGCGCA
AAAATGCCGTCCGAACCTGTTTCCAAAGTTCGGACGGCATTATCCCACCATTCAAAACCG
CCAATCCGCCGACACAAACACCTCGCTGTTGCGGCGTTTCGCATACGGCACATTACTTTC
CGTCCTGCCGAAACGATAATTCAACGCCGGCACGATACCTTTGTACGACAACTTGTCGTG
GCTCAAAGCCAGCGAGACATTCCATTCGCGGTTGCGTTGCGCCTCTGTCGAGAAAGCCGC
AATGCCCTTATAGTTGCGGCGGGCATAAGACGCGGAAACCCGACTGTTCAAACCGCCCAA
CTGCCGCCACTCCTGCGCCCAACCGGCATAAACACCGTTGCGCCGGTAGGCGGCATTATT
GACCGCGCCGCCCACCGTTTCGCGTTTCGGCACAAACCGCACAAACTGCCAGCCGCCGAA
CACAGTTGCCGATTCGCCCAAACGTTTTGCCGACGAAACATAAAACCCGTCCTGCCTGCC
GTTATTGTATTCCGCCCTATCCTGTTCGCGGTAGCGTTGGCGGTAATGTTCCAGCGCGAC
CGAAAATTGCCATCCCGGGTTTGGGCGGTAAGTATGGGACAGCTGCACGCCGACTCCGTG
CGCCAGCATATACGGCGGCAGGCGGCGGTTGTTACCCGTTTTGTTTTCGCATCAAAGCC
GTCGCTGCCCGACAACTGCACCTGATAAAACGGCAAAATCCCCGCCGTCTGCCGTGCATT
TTTATACTGCCAACCCAAATACGCCCTGCCGAACCCGTCATCATAAGCTGATTTTTTACT
GAAATAATAGCTCGTGCCGCCGATATTGGAACGGAACAACAAATAATGATTATCTGCCAA
CGGCGTCAGCTTTTCCGCCTCGATTTCATAATTCAACCCTGCCGCCCGCTCCGCCCGGCT
GACACTGCATATCTGCCGGCCTCCGTTTTGCCGGCAATATTGCGGCGCGGCATTATTGGC
ATTTCTATTGACCGCCGGACTGATGCCGCCCGAAAAACGCCAGCCCGTCAGCCCCTCCGT
TTTTTTCCGAAAACGCCCCACATTTTCCAAAACCGGTGCCGGCAAATCCAATTTTGCCGC
CTCCGCAAAATGCCTTTCTGCCGACTTCAGCCGGAAATCGTCAAACTCCGCCGCCGCCAA
ATCCAGCAAAATCCGCTCGTCTGCCGCATTTTCCCCGTGCAGTTCCCGATACCGCGCCAC
CGCCTCCGCCGGCCTTCCCGCCCAATTTCGCCAGCAAAGCCCGCGCCCTGCCGTACAAAAC
CGCGTCATAATCCGGCAGCTTGGCATACAAATCCGCCAACGAAGCGATTAAATCCGCCTG
ATTGCCGTTGAGCGCGTCGCGCAAACTATGTTCCAACATTTTCGGATGCGCCAACAAAAA
ATCCCCGTCAACCACGCGCGGGGCATCATTTTCAACTTTCCAATCTGATTCCGCCCACTT
ATCCGACACCGACCGCTGCACCTGCAACAATGCCTTGTCATCCAAAATCGCGGGCGCATC
CGCCCCATAGGCGGCAGAAACACCTGCCGCACACCCAAACAACCAAAAAGCCGTATCTGAA
ATACAACATACCCTGTCATTTACCTTTCTGGCAAACACGCCGCCGAAGCACGTCAAACCA
TCCGAAAAACAGGCAGAAACCCGTGAAAACCGGCTTTGCCGCCTGAAAGCAGGCAAACAA
AAACCGCCGCCCGATTTTCAAAGGGCGGATTTCACATTTATAGTGGATTAACAAAAATCA
GGACAAGGCGACCAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTCGTGCTTA
AGCACCTTAGAGAATCGTTCTCTTTGAGCTGAGGCGAGGCAACGCCGTACTGGTTTTTGT
TAATCCACTATAACAGCAACCCTGTCGCCGTCATTCCCGCAAAAGCGGGAATGACGAAGC
```

Appendix A   -461-

```
TATCCGCACAGAAACCTGCACCACGTCATTCCCACGAAAGTGGGAATCCAGAACGTAAAA
TCTGAAGAAACCGTTTTATCCGATACGTTTCCGCACCGACAGACCTAGATTCCCGCTTTC
GCGGGAATGACGGCGGAAAGGTTGCTGTTTTTCCGATAAATTCCTGCCGCTCTTCGTTTT
TGGGATGGCGGGAAATAAAACAAAAGCGCGCGTATCAAAAAACAAAAATGCAAAGAACGG
CGTTGGCAATTTTAAGGTTTGCGCCTTAGCCGCACTTATTCGCAAAAAAAACCGCACGGC
GTTGACCGTGCGGTTTTTTATCTGAAAGCTTCAGACGGCATTGCTTACATCATGCCGCCC
ATACCACCCATGCCGCCCATATCAGGCACAGCCGGTTTGTCTTCGGGGATTTCAGCGATC
ATGCAATCAGTGGTCAGCATCAAGCCGGCGATAGATGCGGCGTGTTGCAGCGCAGAACGG
GTTACTTTGGCGGGGTCGAGTACGCCCATTCGATCATATCGCCGTATTCGCCGCTGCCA
GCGTTGTAACCGTAGTTGCCTTTGCCTTCCAATACTTTGTTCACAACCACGCTGGGTTCG
CCGCCTGCGTTGGCAACGATTTGGCGCAGCGGAGACTCAACGGCGCGCAAGACGATTTGT
ACGCCTGCGTCTTGGTCGGCATTGCCGGTGTGCAGGTTTTCCAAAGCAGCACGGGCACGC
AACAGGGCTACGCCGCCGCCTGCAACCACGCCTTCTTCAACGGCTGCGCGGGTAGCGTGC
AGCGCGTCTTCCACGCGGTCTTTTTTCTCTTTCATTTCGACTTCGGTCGCGGCACCGACT
TTGATGACTGCCACGCCGCCTGCCAATTTAGCCACGCGCTCTTGCAGTTTTTCTTTGTCG
TAATCGCTGGTTGCGGTTTCGATTTGTTGGCGGATTTCGGCAACACGCGCCTTCGATTGG
GCTGCGTCGCCAAAGCCGTCGATGATGGTGGTGTTTTCTTTACCGATTTCGATGCGTTTG
GCTTGACCCAAGTCGTCCAAAATCGCTTTTTCCAAAGACAGACCCGACTTCTTCGGAAATC
ACCACGCCGCCGGTCAGGATGGCGATGTCTTGCAACATCGCTTTGCGGCGGTCGCCGAAG
CCAGGGGCTTTGACGGCAACGGTTTTCAGGATGCCTCGGATGTTGTTCACGACCAAAGTC
GCCAAGGCTTCGCCTTCTACGTCTTCAGCGATAATCAACAGCGGACGGCTGGCTTTTGCC
ACTTGTTCCAAAACAGGCAGCAGGTCGCGGATGTTGCTGATTTTTTTGTCGAACAACAAT
ACAAACGGATTGTCCAAAGCAGCGATTTGTTTTTCCGCATCGTTGATGAAGTAAGGAGAC
AGGTAGCCGCGGTCGAACTGCATACCTTCAACTACGTCCAGCTCGTTTTCCAAAGACTTG
CCGTCTTCAACGGTAATCACGCCTTCTTTGCCGACTTTTTCCATCGCTTCGGCGATAATC
GCGCCGACTTGTTCGTCCGAGTTCGCGGAAATAGAGCCGACTTGGGCGATTTCTTTAGAA
GTGTCGCAAGGTTTGGCGATGTTTTTCAGTTCGTCAACCAAAGCGGCGACGGCTTTATCG
ATACCGCGTTTCAGGTCGGTCGGATTCATACCTGCGGTAACATATTTCATACCTTCGGCA
ACGATGGATTGCGCCAGTACGGTGGCGGTAGTCGTACCGTCGCCTGCCACGTCGTTGGTT
TTGGACGCAACTTCTTTCACCATTTGCGCGCCCATATTTTCAAACTTGTCTTTCAGTTCG
ATTTCTTTGGCGACGGTTACGCCGTCTTTGGTGATGTGCGGGCCGCCGAATGCGCGGTCA
ACGACTACGTTGCGACCTTTGGGGCCCAAGGTTACGCGGACGGCGTTTGCCAGAATGTTC
ACGCCGTTTACCATTTTTTGACGGACTTCATTGCCGAACTGTACGTCTTTTGCTTGCCATT
TCAATTCTCCAAAAATCATTAAAACTGTCTGATAAAACCGTTTATGCCGTCTGAAGGCGG
TTTGCCGTTTCAGACGGCATCGTGTCCGTATTTATTTTTCAACGATGCCGAAAATATCTT
CTTCGCGCATTACCAACAGCTCTTCGCCGTCGGCTTTTACGGTTTGGCCGCTGTATTTGC
CGAAGATGATTTTGTCGCCGACTTTGACATCCAGCGGACGGCGGCTGCCGTCTTTACCGA
TTTTGCCCGCGCCCACGGCGATGACTTCGCCCATATCGGGTTTTTCGGCGGCCGCCACCCG
GCAAAACGATGCCCGATGCGGTTTTTTCTTCAGCTTCCAAGTCGTTTGACGACAACGCGGT
CGTGTAAAGGACGGATGGTCATATTTATGCTCCGATAAAATAGTTTGAAAACAATCATCT
GCCCGAACGGTTCAGGCAGATTGAAGTGGAAACCGGACAGCCGTCAAGCAGCTGCCCGTA
TAAGTCGGCAAAATTAGGGTGTGTGCGGGTAAATTCAAGTGAGGCGGAAAAAATTTATTT
CCGCCGTTTTTTATAGTGGACTAAATTTAAGGGGCTGTACTAGATTAGCAGATATGTTAC
CCTCGAAATATGAAGATAACGCACTGCAAATTAAAGAAAAAAGTACAGAAGAACTGCTC
CGTTTTTTTGTACTGGAAGTTACCGCCCGTTCTGCCGCCGATATTTTGGGTATCCATCCCA
ATTCGGCAGCACTGTTCTACCGTAAAATCCGCACGGTTATCAACCATCATTTAGCCTTGG
CTGCCGATGAGGTTTTTGAGGGCCCTGTCGAGCCGGACGAAAGCGATTTCGGCGGACGGC
GTAAAGGTAGACGTGGTCGCGGTGCAGCAGGAAAAGTGGTTGTCTTCGGCATTCTGAAAC
GCAACGGACGGGTCTATACCGTTGTGGTGGATAATGCCAAGTCTGAAACGTTACTCCCTG
TCATCAAGAAGAAATCATGCCGGACAGTATTGTTTATACCGATAGTCTGAGCAGCTGCG
ACAAGTTGGACGTGAGCGGTTTCATTTATTACCGCATCAACCATTCCAAGGAATTTGCAG
ACCGTCAGAACCACATTAACGGCATTGAGAATTTTTGGAATCAGGCAAAACGTGTCTTGC
GAAAATACAATGGAATCGATCGTAAATCTTTCCCGCTGTTCTTGAAAGAATGCGAATTTC
GATTTAACTTCGGCACACCGTCTCAACAGCTTAAAATCCTGCGGGATTGGTGTGGGATTT
AGGGCTAATCTAGTACAGCCCCTAAAATTTTTCGTTTTCAAGCCTTCACCGCTTGCCATC
AGCGTTAAATTTTTTTACGATAAGCACATAGATTGTAAACAATCGGCCACAAGCCGGTTT
GTTTTTTCAGAAGACATTATCCCTGTCAGACGCTATTCTATATATTTCGCCTATAATGG
CTTGTTTTTAATAAATAATTCAAGAGGTATCAACGTGTCTGATTCCAAGACGAAAGAACG
CGCCACATTCGGCACGCGCCGCGCGTTTATGATTGCCGCATCGGGTCCGCCGTCGGCTT
GGGCAATATTTGGCGTTTCCCCTATATTGCTTTTGAAAACGGCGGCGGCGCGTTCATCCT
GCCCTATCTGGTCGCGCTTCTGACGGCGGGCATCCCGCTGCTGCTGCTCGATTATGCCAT
CGGCCACCGTTACCGTGGTTCTGCGCCCTTGGCTTTCCGCCGCCTCGGACGATGGTTTGA
GCCGGTCGGCTGGTGGAACGTGATGACCAATATCGTCATCTGCATCTATTACGCGGTAAT
TATCGGTTGGGCGGCAAGCTATACCTATTATTCGGTCAACGCCGCCTGGGGTGCGGATCC
GCAGGGTTTTTTCTTTAAGGACTTCCTGCAAATGCCGGGCCCGGAAGCCTTGGGTTTGGA
TTTTGTCGGCAAAGTCGCCGGTCCTTTGGCGGGCGTGTGGGTTTTTACCGCCGCCATTAT
GGCGTTGGGCGTGCAAAAGGGCGTGGCGCGCGCCTCGTCGTTCTTTATGCCGCTGCTTTT
GGTGATGTTTTGATTATGGTCGGCATTTCACTAACCCTGCCGGGTGCGGCAAAGGGCTT
GGACGCATTGTTTACGCCCGACTGGTCGAAACTCGCCGATTCCAAGGTCTGGCTGGCGGC
ATACGGGCAGATTTTCTTTTCGCTTTCCATCTGCTTCGGCATTATGGTTACCTATTCTTC
TTATTTGAAGAAAAAAACCGACTTGGGCGGAACGGGGCTGGTGGTCGGTTTTGCCAACAG
CAGCTTTGAACTGCTCGCGGGCATCGGCGTGTTTGCCGCATTGGGCTTTATGGCGCAGGC
GGGCGGTAAGGCGGTCAACGAGGTTGCCTCAGGCGGCATCGGTTTGGCGTTTATCGCCTT
TCCGACCATTATCAACCAGGCACCGATGGGCTGGCTGATCGGCATATTGTTTTTCGGTTC
GCTGGTGTTCGCCGGCCGTTACGTCGATGATTTCCATCCTTGAAGTGATTGTGGCGGCGAT
```

Appendix A   -462-

```
TCAGGACAAGCTGAACATCGGGCGCGTCAACGCCACGCTGCTGGTCTGCATTCCGATGGG
CATTGTTTCCACGCTGCTGTTCGGTACGGCGACGGGGCTGCCGGTTTTGGACGTGATGGA
CAAATTCGTCAACACCTACGGCATTGTTGCCGCCGGCTTTGTTTATGTTGCCGCCATCAT
CATCAGCGGCAGGCTGCCGGAATTACGCAAGCACCTGAACGCTTTGTCCTCCATCCGCAT
CGGCGGCTTGTGGACGGTCTGCGTCGTGGTTACCGTCGTGATGCTCGGCTATATGCTGTT
TAAAGATACCAGCGCGCCTGATGGAGAAAAATTACGAAGGTTATCCGGATGGTTTCCTCAG
TATTTTCGGCTGGGGGATGTCGGCGGCGTTGGTCGTGTTCGGGCTGCTGCTGTCGTTGCT
GCCTTGGAAACACGGTCAGGATTTCAACGTCAAAGACGAACACGAACAAGGAGA
AGAAAAATGAGTACTTCCGCCATTGTGATGATGATTGTCTCAATCGTGATAATCTGGGGA
GGGCTGCTGCTTTCCCTGTTAAGGCTGCCGAACGAGTAAGCCTTTAGAGCGTTAAAAATG
CCGTCTGAACCGCTTCAGACGGCATTTTGATGTTCGGCTTGCAGGCAGGCGAGTTCGTTT
GCCATTTGCTGTTCCAAGGTTTCGCGCCGGCGGATGAGTCGGTATTCGTTGCCGTCCACC
AACACCTCTGCCGCACGGTTGCGCGCGTTGTAATTGCTCGCCATACTGGCCCCGTATGCG
CCCGCGCTGCGGATAAGCAGCAAATCCCCTTCTTCGCAGGCGATGGTGCGGTCTTTGCCG
AGGAAGTCGCCGGTTTCGCAAATCGGACCGACGATGTTGGCGGTCAGCGTCGCGATGTCT
TTGGTTTCGACCGCCTCGATGTGATGATAGGCATCATAAAGCGCCGGGCGCATCAAATCG
TTCATCGCCGCATCGACCATCACAAAGTTTTTCTCTTCGCCGTATTTGACAAACTCGACG
CGTGTCAGCAGCGCAACCTGCGTTGCCGACCAGGCTGCGGCCGGGCTCAAGAATGAGTTTC
AGACGGCGTGTGCCGATCAGTTTTTGAACGGCTTGGGCATACGCGCCCAAATCAGGCACA
TTTTCGTCTTGGTAAACAATGCCGACGCCGCCGCCTAAGTCTAAATGTTCCAAAACAATG
CCTTCGGCGGCAAGCGCGTCAACCAAAATCAAAATGCGCTCGCAGGCTTCGACCAGCGGG
CTTAAGTCGGTCAGTTGCGAACCGATGTGGCAGTCGATGCCGATGATTTTCAAATTGGGC
TGTTGTGCGGCATAGTGGTAGGCTTCGAGCGCGTCGGCGTAGGCGATGCCGAATTTGTTG
GCTTTCAGACCTGTGGAGATGTAGGGATGGGTTTTTGCATCGACATCGGGGTTGATGCGC
AGGGAGACGGGCGCGGTTTTACCCAAACGTGCGGCAACTTTCTGAATACGGTCGATTTCG
GGGATGCTTTCCATATTGAAGCATTTCACGCCTGCATTCAGCGCGAACTCGATTTCCGCC
TCGCTTTTGCCTACGCCTGAAAATATGGTTTTTGCCGCGTCGCCGCCTGCCGCCAAAACG
CGTGCCAATTCGCCGCCGGACACAATGTCAAAACCGCTGCCCAGCGAGGCGAAGTGTTTG
ATAATGCTCAGATTGCCGTTTGCCTTGACGGCGTAACAGACGAGCGGGTTCAAAGCGGCA
AACGCGGTTTGGTAGTGTTCAAATGCTTCGGTCAGCGCGGATTGGCTGTACACATAAAGC
GGTGTGCCGAATGCTTCAGCAAGGCGGGGGTAGGGCACTTGTTCGCAAAATAGGGTCATG
TTTTCGTTTTCATTTTGGGTTTGTGGAGCGGATTGCGGTTTGCTTTGAAGTTGCAAACC
GGTTTGGATTACGCCGAAACGCGCCTTGTCGCCTTCTTTGGGCAGGTAGAGGTCGCCTTT
GTAACCGCAGGCCGAGAGCAGGAGGGCGGTTGCCGCCGCAAAAAATACGCCGTATTTCAT
CGGTAAACTTCCTTCATAAGCGCGAATGTGGCAAGATTCGGCATCTTAAACAAAAAACAC
GCAAAAAGCTATGATGACCGAAAGCGAGTTTATCCGCGCGAGCGAAGCATTATTTGAACA
CATCGAAGACCCAAATCGACGAAAACGGCTGGGATTTCGACTGCCGGTTTGCCGGAAACGT
CCTGACCATCGAAGCCGGGAGACGGCGCCCAAATCATCGTCAACCGCCACACGCCCAATCA
GGAATTGTGGATTGCCGCAAAAAGCGGCGGCTACCATTTCGCCGAGCAAAACGGCAAATG
GCTGGCAACGCGCGACGGACGCGATTTTTATGACGTTTTAAACGAAGCCCTGAGCGCGGC
TTCGGGCGAAGCGGTGGAAATTGCGGAATTGTGATTTGGGTGTTATCACGGAAAGAAAAA
ATGAACACACGTCCCTTTTATTTCGGACTGATATTTATCGCGATTATCGCTATACTTGCT
AACTATTTAGGAAACACTGATTTTTTCCCATCATTATCATATCAGTGCTTTAATTATTGCT
ATCTTGCTGGGAATGGCAATCGGCAATACCATTTATCCGCAATTTTCGACACAAGTGGAA
AAAGGCGTTTTGTTTGCCAAAGGCGCGCTTCTTCGCACTGGCATTGTGTTGTATGGTTTT
CGCCTCACTTTTGGCGATATTGCCGATGTAGGATTAAATGCGGTTGTCACTGATGCAATC
ATGCTAATTTCAACCTTCTTTTTTACCGCACTTTTAGGCATTCGTTATCTAAAAATGGAT
AAACAATTGGTTTATCTCACTGGGGCAGGTTGCAGCATTTGCGGTGCGGCAGCAGTGATG
GCGGCAGAGCCTGTTACTAAAGCAGAATCCCATAAAGTTTCAGTGGCGATTGCCGTAGTG
GTCATTTTCGGGACGCGCTTGCTATTTTTTACTTACCCCTTGTTCTACACGTGGTCACAACAT
TTAATTAACGCCCATCAATTCGGTATTTATGTTGGTTCTAGTGTACACGAAGTGGCTCAA
GTGTATGCGATTGGGGAAAAATATTGATCCTATCGTGGCGAATACTGCCGTCATTTCCAAA
ATGATCCGAGTGATGATGCTCGCCCCCCTTTTTATTAATGCTTTCTTGGTTATTAACACGT
AGTAATGCGAGTATCAGAAAATACATCACACAAAATTACAATTCCTTGGTTTGCTGTACTT
TTTATTGGTGTTGCCATTTTTAATTCTTTTGATTTATTACCAAAAGAACTCGTGAAATTA
TTCGTTGAAATCGATTCTTTCTTATTAAATTTCATCAATGGCTGCGCTTGGCTTAACGACG
CAAGCAAGCGCAATCAAAAAGGCAGGATTAAAACCGTTTGTTTTAGGAATACTAACTTAT
TTATGGCTAGTGGTTGGTGGATTTTTAGTGAACTATGGAATATCAAAATTAATATAAAAT
TCACTAAAGAGAGCGTTACCCAATGGCACAATTACCGCTATATCTGACTTCTGAAATCAA
AGACTTTACTGTCGGCACGCCTAAAGTTTTAGAATCATTTTCCAAACATATCCCTTATGG
TGTCGTCTTTGAAGACGACGGCGACACAGGCTACTTCTATGCCGCTTCGCAAGACGGGAT
TTTAGATGCCTTGCACATCTATAATGTCGAAGATGTATCCGACAAACATATCCCCAATCA
TGTCTTGATTTTATGGGATGATGCCTGCACCATAGCCGCATTGTGTATCAACGACTACAT
TCATGCCGTCTATGATTTTGTCGAACAGGCAGGATATTGCCGCAACGGCTTCCCTGAAGC
AGGCGGCGAATGGGTGAAAGTCGAAAACCGCGTCTTGGATGATGAATTGCTGGACAAAAT
CCTATCCCGAAAATCTACATAACCCTCACAAAAGGATACCCAAATGCCCCTACTAGACAG
TTTCAAAGTCGATCACACCCGTATGCATGCCCCCGCCGTACGCGTGGCGAAAACCATGAC
TACGCCCAAAGGCGACACCATTACCGTGTTTGACCTGCGCTTTTGCGTTCCCAACAAAGA
AATCCTGCCTGGAAAAGGCATACACACGCTGGAGCATTTGTTCGCAGGTTTTATGCGCGA
CCACTTGAACGGCAACGGCGTGGAAATCATCGACATTTCCCGATGGGCTGCCGCACCGG
TTTTTATATGAGTCTTATCGGCACGCCTTCCGAACAGCAGGTCGCCGATGCGTGGCTGGC
TTCGATGCAGGATGTTTTGAATGTCAAAGACCAAAGCAAAATCCCCGAGTTGAACGAATA
CCAATGCGGCACTTATCAAATGCACTCGCTCGCCGAAGCGCAGCAAATCGCGCAAAACGT
GTTGGCGCGCAAAGTGGCGGTGAACAAAAATGAAGAGCTGACGCTGGATGAAGGGCTGCT
GAACGCCTAATCCGCCAAAAATGCCGTCTGAACAAGGGTTTCAGACGGCATTTGCCTTTT
```

Appendix A   -463-

```
CCGTTATAATCCGGGGTTGTCCGGGGGCGGGTTTTAAGCCGGCATCGTCCTTCCCTATTT
TTTTCTGTCCCTTATCGGTTTTAAGCGGGTTTTTTATGTCCAACAGACCTACACTCCTCC
TCGTTGACGGATCGTCCTACCTCTACCGTGCGTATCACGCGATGGGGCAAAACCTGACCG
CCCCCGACGGCGCGCCGACGGGTGCGCTGTATGGTGTATTGAATATGTTGCGCCGTTTGC
GGTCGGAATATCCGCACGATTATTGCGCGGTGGTTTTTGATGCGAAAGGCAAAAATTTCC
GCCATCAAATGTTTGAAGAATACAAGGCGACGCGCCCGCCGATGCCCGACGATTTGCGCC
CGCAGGCGGAAGCACTGCCGGATTTAGTGCGCCTGACAGGCTGGCCGGTATTGGTGATTG
GGCAGGTGGAGGCGGACGATGTGATCGGCACGCTGGCGAAACAGGGGGCGGAACATGGTT
TGCGAGTCATTGTTTCGACCGGCGATAAGGACATGGCGCAGTTGGTGGATGAGCGCGTTA
CGCTGGTGAACACGATGAGCAGCGAAACGCTGGACATTGAAGGCGTGAAGGCAAAATTCG
GCGTGCGCCCCGACCAAATCCGCGATTATCTCGCGCTGATGGGCGACAAGGTGGACAACG
TGCCGGGCGTGGAAAAATGCGGCCCGAAAACGGCGGTGAAATGCTGGAAGCCTACGGTT
CGCTGGCTGGTGTGATGGAACACGCTTCGGAAATCAAGGGCAAAGTGGGCGAAAACCTGC
AAGCCGCGCTGCCCCAACTGCCGCTGTCGTATGATTTGGTCACGATTAAAACCGATGTGG
ACTTGCACGCCGAGCTTTCAGACGGCATCGAAAGCCTGCGCCGTACTACGCCGAAATGGG
CGCAGCTGGTTGTCGATTTCAAACGCTGGGGCTTCCGCACCTGGCTGAAAGAAGCGGAAT
CAAACATGAATACCGGCTCGACCGATGATTTGTTCGGCAGCGACAGCATCGGCGAGCAGG
CGGCTTTGAATGCGGAAATGCCGTTTGAAAAACAAGCCGAAAAAGCCACCGCCCCCGAAA
AACTGGATTATCAAGCCGTTACCACCGAAGCGCAGTTTGCCGCTTTGTTGGACAAAACTGT
CGCGGGCGGACACAATCGGCATCGATACGGGAAACCACGTCATTAGACGCGATGAACGCCT
CGCTGGTCGGCATCAGCATCGCTTTCCAAGCAGGCGAAGCGGTTTACATCCCCGTAGGAC
ACAGCCTGACCGCCGCGCCTGAACAGCTTGATTTACAAGACGTATTAGGCCGTCTGAAAC
CGCATTTGGGAAACCCCGCCCTAAAAAAAATCGGGCAAAACCTCAAATACGACCAACACG
TTTTCGCCAACTACGGCATCGCCCTGAACGGCATTGCCGGCGACGCCATGCTCGCTTCCT
ACATCATCGAGAGCCATCTCGGACACGGCTTGGACGAATTGTCCGAACGCTGGCTCGGCT
TGGAAACCATTACCTACGAATCGCTGTGCGGCAAAGGCGCGAAGCAAATCGGTTTTGCCG
ATGTCGCCATCGGGCAGGCGACCGAATACGCCGCCCAAGACGCCGATTTCGCCCTGCGCC
TCGAAGCGCACCTGCGCGCGCAAATGGACGAAAAACAGCTTGAAATGTATGAAAAAATGG
AGCTGCCCGTCGCGCAGGTATTGTTTGAAATGGAACGCAACGGCGTGCAAATCGACCGCG
CCGAACTCGCCCGCCAAAGCGCGGAACTCGGCGCCGAGCTGATGAAGCTCGAACAGGAAG
CCTATGCCGCCGCAGGCCAGCCGTTCAACCTCAATTCGCCCAAACAGCTGCAAGAAATCC
TGTTCGACAAAATGGGCATCCCCACCAAAGGCCTGAAAAAAACCGCCAAAGGCGGCATTT
CCACCAACGAAGCCGTGCTCGAACAGCTCGCGCCCGACTACCCCCTGCCTAAAATCATCC
TGCAAAACCGCAGCCTGGCGAAGCTCAAATCCACCTACAACGACAAACTACCCGAAATGA
TTTCCCCCAAGGACGGCCGCGTGCATACCACCTACGCCCAAGCCGTCGCCATTACCGGCC
GCCTCGCCAGCAACAACCCCAACCTGCAAAATATCCCCATCCGTACCGAAGAAGGGCGTA
AAGTCCGCCGCGCCTTTACCGCACCGCAAGGCAGCGTCATCGTTTCCGCCGACTATTCCC
AAATCGAGCTGCGCATTATGGCGCACCTCTCCGGCGACAAAACCCTGATTGCCGCGTTCC
AAAACGGCGAAGACGTACACCGCCGCACCGCCGCCGAAGTGTTCGGCACTGCGCCCGAAA
ACGTCTCGTCCGAGCAACGCCGCTATGCCAAAAGCATCAACTTCGGCTTAATTTACGGTA
TGGGGCAATACGGTTTGGCAAAATCATTGGGCATCGACAACCTTTCCGCCAAAAACTTTA
TCGACCGCTACTTCGCCCGCTACCCCGGCGTCGCCGAATACATGCAGCGCACCAAAGAAC
AAGCCGCCGCCCAAGGCTACGTCGAAACCCTGTTCGGCAGAAGGCTCTACCTGCCCGACA
TCCGCAACAAAAACGCCAACGCCCGCGCCGGAGCCGAACGCGCTGCCATCAACGCCCCCA
TGCAGGGCACCGCCTCCGACCTCATCAAACGCGCCATGATAGACGTGTCCCGCTGGCTTT
CAGAGTGCGAAGCCTCCCCGTGGGACGAACTCTTACAAAGCAAACTGATTATGCAGGTGC
ATGACGAACTGGTGCTGGAAGTCGTTGAAACCGAACTGGATTTTGTCAAAGAAAAACTGC
CGCAGATTATGGCGAAAGTGGACGGCGGATTATTGGATGTACCGCTGGTGGCTGAGGTTG
GCGTAGGGGAGAATTGGGAAGAGGCACATTGATTGAAAGGTGTTATATGCTATCTTTATT
TAAATAAAATTTAATTTTTGGTATATTTTTTCTAAATGTTCCTATAGTATAGTGGATTAA
CAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCAC
TTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGACAACGCTGTAC
TGGTTTTTGTTAATCCGCTATATTCCGCCATCTCTAAGATTTACAGCGATACACGGGTGA
TTTAAGGAATGCCCGAACCGTCATTCCCGCAACTTTTCGTCATTCCCACGAAAGTGGGAA
TCTAGAAATAAAAAGCAGCAGGAATTTATCGGAAATAACTGAAACCGAACAGACTAGATT
CCCACCTGCGTGGGAATGACAATTCGAGACCTTTGCAATAACATAGGTTACTAAAATTTT
ATGCTCAATCTCATTTTCAAAATGCAAAACTTTTCTGATTTTTCCTACTTTTTGCTCAAT
ATTAGGAAGGTTTTAGGCAATTGAAAATTTTTTGGCGCATTTTTATGCGTCAAATTTCGT
TAACAGACTATTTTTGCAAAGGTCTCAATTCATAAGTTTCCCGAAATTCCAACATAACCG
AAACCTGACAATAACCGTAGCAACTGAACCGTCATTCCCGCGCAGGCGGGAATCTAGACC
TTAGAACAACAGCAATATTCAAAGATTATCTGAAAGTCCGAGATTCTAGATTCCCGCTTT
CGCGGGAATGACGAAAAGCAAGCCGTAGGTCGGATACTTGTATCCGACAAAAGCCTGCCA
TCTCAAATAGCCGTCGGATTCGAGAATCCGACCTGCCAAACCGGGCGCGGACGCTCCGGC
CGGCAGTTAGTACGCAAATCGAACAGAACATCACAAAAAAGCCCGATTCGGATTTTCCAA
TCGGGCTTTTTTGCGCCCGTTTTGTCATCCCGTGAAATATCCGCATGCAAAAATATAGT
GAATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAGATAGTACGGTAAG
GCGAGGCAACGCTGTACTGGTTTAAATTTAATTCACTATAATGCAAAATCATGACAAAAC
CGGCGCGAGGTTACACAAACGGATGAAATCAACCGATATTCAAACACAGTCATTTTTAGC
GCATTTTCAGCGTATCGTTAATGCGGAAAATTTCGTGAACAGGTTTTTTGCACAGGCCTC
CGCCTCGTTTCGCGGGATGGGAAACCGTATTAGAAAACGGACGCACGCAACATAAACCCC
GAAAGTGATGATAAGATGATGATTTAACGTACTGCTTTAATTATTTAAGGAATTATCGTG
TTTCCCGACAAATACAAGTTGAGTTTGAAAGAAAATATTTTTTTGGCAAAGAAAGTATTG
GTTGCCCAAATTCACAACCTCAGTCGTTTTGAGAATTGTCAGACGACCTTGTTGCAGACC
GAACAAATTATCCATGGCAAAAATGTAGCCTCCGCGTCACTGGAAGACATCCAAACCATC
TTGAACCTGAAACGTGCCTATCAATATGTGATTTCGCATATTTCAAACGGCGAACCGGTC
```

Appendix A　　　　　　　　　　　-464-

```
GATATTTCACTCCTTAAAAAAATCAACAACATTGTTGCCAAGGACGATTCTTTGGCACCC
GGTGATTTCCGTACCGGTTCGGTCGGCGTAACGCTATTGGACGGTTCCCGTCATGCCCCG
AATCCAGTGAAGGAAATTGAAGTCGCCCGCGTGTTACAAAATATCGGACTGCAAAGCGGT
TCGACGACGGAGGCAGCCGTCCGTTTTATGCTTTATTGTATGCGGCAGCAGGTTTTTGG
GACGGCAACAAACGAACGGCAACCTTATTTGCCAACGGTCTGATGATGGCGGGGGGCTGC
GGCATCTTGGAAATCTCCGAAATGCAGATGCCGCAATTCAATGAAAAACTGTCCGCATTC
TATCGCTCCGGCGACGATACCGATATTTCCAAGTTTGTGTATCAAAATTGTATATCGGGC
ATAGACTGAGACCTTTGCAAAATTCCCCAAAACCCCTTAAATTCCCACCAAGACATTTAG
GGGATTTTCCATGAGCACCTTCTTCCAGCAAACCGCCCAAGCCATGATTGCCAGACACAT
CGACCGTTTCCCGCTATTGAAGTTGGACCAGGTGATTGATTGGCAGCCGATCGAGCAGTA
CCTGAACCGTCAAAAAACCCGTTACCTTAGAGACCACCGCGGCCGTCCCGCCTATCCCCT
GCTGTCCATGTTCAAAGCCGTCCTGCTCGGACAATGGCACAGCCTCTCCGATCCCGAACT
CGAACACAGCCTCATTACCCGCATCGATTTCAACCTGTTTTGCCGTTTTGACGAACTGAG
CATCCCCGATTACAGCACCTTATGCCGCTACCGCAACCGGCTGGCGCAAGACGACACCCT
GTCCGAACTGTTGGAACTGATTAACCGCCAACTGACCGAAAAAGGCTTAAAAGTAGAGAA
AGCATCCGCCGCCGTCGTTGACGCCACCATTATTCAGACCGTCGGCAGCAAACAGCGCCA
GGCTATAGAAGTCGATGAGGAAGGACAAATCAACGGCCAAACCACACCCAGTAAGGACAG
CGATGCCCGTTGGATAAAGAAAAACGGCCTCTACAAACTCGGTTACAAACAACATACCCG
TACCGATGCGGAAGGCTATATCGAGAAACTGCACATTACCCCCGCCAATGCCCATGAGTG
CAAACACCTGCCGCCTTTGTTGGAAGGACTGCCCAAAGGTCGACCGTCTATGCCGACAAA
GGCTACGACAGTGCGGAAAACCGGCAACATCTGGAAGAACATCAGTTGCAGGACGGCATT
ATGCGCAAAGCTGCCGCAACCGTCCGCTGACGGAAACGCAAACCAAACGCAACCGGTAT
TTGTCGAAGACCCGTTATAGTGGATTAAATTTAAATCAGGACAAGGCGACGAAGCCGCAG
ACAGTACAAATAGTACGGCAAGGCGAGGCAACGCCGTACTGGTTTAAATTTAATCCACTA
TATGTGGTCGAACAGAGCTTCGGTACGCTGCACCGTAAATTCCGCTACGCTCGGGCAGCC
TATTTCGGACTGATTAAAGTGAGTGCGCAAAGCCATCTGAAGGCGATGTGTTTGAACCTT
TTGAAAGCGGCCAACAGGCTAAGTGCGCCCGCTGCCGCCTAAAAAGCAGCCCGGATGCCT
GATTATCGGGTGTCCGTGGAGGATTAAGGGGGTATTTGGGTAGAATTAGGAGGTATTTGG
GGCGAAAATAGACGAAAACCTGTGTTTGGGTTTCGGCTGTCGGGAGGGAAAGGAATTTTG
CAAAGGTCTCAGACTATTTCGGCACGGACGAAGATATAGATTTCCCCGACCCACCAAACA
TGGGCTAAAAATCAATTTGACGGTTATCAGACAATGGAGCAGGCACAAGGCGGCGGCAGA
AAAAGGGTTTGACAGCGCACGGTGGCATCGTCAGACCCCTTTCGGCATATCCGGCCGGTTA
CCAGCGGTAGCCTAATTTGATGCCCGCGCTGTGTTGCGCTTCCAGTTGCGGGCCTTTGGC
GGCGGCAGCGTGGAGGGACAGCGTGAAACCTTTGATTTCGGCGTTTACGCCCCATTCCGC
ACTGCGGGTTTTGCCGAAATCCTGAGCCAATACGGCGGTATTGACGCGTGTTCGGACTTT
GCCCGAAGCGGCATCGGTATAGGACAGGCTCAAATAAGGCGTGATGGAAATGTGTTGCGC
CGGTTTGAATGAATAATCTGCCTTAATGCCCGCGCGGTAGCGGTTGAATGCAAGGCCGGG
GGTGGCGATATTGACGTTTTCGTAGCGGTAATCCGCTTTTTGGACGAAATAGCGCGTTGC
GCCGATGTGCGGTTCGATGCCGAATCCGCCGAAACCGGCGCGGTATCGTGCCTGAATGCC
GTAATGCAGCACGCGGCGGCGGATTTTGCCTCCGATGCCGTCTGAAAGGCTGCCGCTGCT
AAAACCCGCGCCCGCGCTGATGCCGATGTAGAACCTGTCGATGCCCGTATTGCCCGAAAAC
GGCGCCGTGGGCAAGCCGTGCCGAGTTGCCGATGCCGTCGTCGAAGGTGTTTTCGGTCCG
GTTGTGCGAAAACAGGATGCCGACGCGCCCGCTGCCGAGGTTTTTCTGCATACCGATTTG
GCGCAGGTCGGTTTGTTGGCGGTAGGCGCGGAAATCTTGCGAACGGTAGTGTTTGGTGTC
CCGGATGCCGCTTGTCCAAACGGCGTTGCGGCGGTCTTCGGCAAATACGCGGTCTAATTC
GTCCTGTACGGCGAAAACGCTGTTGAGCGTGGCGGAAAATTCACTCAAACCGCTATTGGC
ATAACGGCTGATCAGGTCGCGCTGCGGTTGGGGCTGCGGTTGGGGTTGCAGTTGCGGCAA
ATCCCGGCGGGCGCGGCGGGCGCGGGGGAAGGCGGTGGTAGCCGGCCGGGTTTCCGCTTC
GCGCTGTTTCGCCAAGGCGGTGTCTTTATCCGCCTGCACCCGTTTTTTCTCTTCCTCCGC
CTGCATAATGCCGACATTTTCCCCGCCTGCCTGCCGGGCCAGGTTTCGGCAACGCTTTCTGT
CTTTTCGACGGCATCGCGCCCGGCCGCAATCAGCGCGTCAAGCCTTTGCCGGTTGTCTTT
TTCCGCCTGTTTTTTTGGCTTCTGCCTTGCCGAGTTTGTCGGAAAGCTCTTGTTCTTTGAC
CGGATTATGCAGGCGGAACTCGCCGTCTTTGCGGATGAGTTGGTAACGCCACGCGCCGGC
ATCGACGTGTTCGTTTTGCAGGGTGAAATTAAGGTTTTCGGACAGCGGTTTGTTGTCTTT
TCCTTCCACTACCGTCAATTGTTCGAGGCTTGCAGGTTCGTTGCCGGTATTGTTGACCGC
CAAGGTGTAAGTGCCTTCGGAACTTTCCGCCAGCTTCAATTTGTCGCTGCCGGTAGCCGAA
GAGTTCCGACATAAAGCGGAATGTTCCCTGACCGTTCAATTTGCCGTTTACCGTCAGCGT
GTTGAAACGGGATTCTACCGAAGTTGGCGGTGTAACGGATAATAGGGAACGGCGCGAACG
GCGCGAACGGCGGCGCGGCGCATCTGTCGCACTGCCGGTTTGCGCCCCTGCCGCATCGTG
GCGATAGGCGGAATTGAGTGTAATGGTGGCGTTGTCAAGGTTTAAATTGCCTAATTCCGT
GCCTGACGGCAGCGTCCATTCGCTGTCTTTTAAGTGTAATGCCGTATCCTTGCCGCCGCT
GATTTGTCCGGTAAAGCGGCTGCTTTCAAAATGGAATACTGCCTTATCGGCTAGGGAGAC
ATTACCGTTGAGTGCGGAATGGCTTACGTTTGCCTTAGCGTTGCCGGAAAGCGTCAGACT
GCCGTTTTGTACGGCGTGGTCGCTTAGATTAAATGAAGCATTGCCCGAAGCCGATGTGTT
GCCGTTTAATGTGGCTTGATTAAATGTTGCTTGGGCATTGCCCACGAGGCTAAGGTTGCC
GTTTTGGGTGGCGTTGTGGCTGACTGTATAACGTGTATCGCCATTTGCACTAAGATTGCC
GTTGAGTGTGGCAAGCCCTGTGAGATTTAAATGAGCGTGATCGGCAAGATCGACATTGCC
GCTGATGTCGGTCTTAGTCAATGAAGCAATCACTTTATCGTCGGTAATGGTTTTTTCGAC
ACAATTTGTCAGACCCGTCCAGTCCGAACGTGTACAGATTGTGTGGCTTTGATGCGGTGC
GACACCAAAAACTGCTTGGGCGTGATTGCTCAAATGCCAATCGCCTTTCACTTTGGCAAC
ATTGCGGGAAACCACCGCCTGTCCGCCTTTAATTTGGAAGTTTTCCGCTTTAAATGTGCG
GTTGATCCAGTCGTTGTCCCACACGATTTCCCCGCGAGGAATGCCCTCTTTTTGCGACCA
ATGGTCGTTTAAATGATTGTAGGCGTGCGGTGTTGGTCTGCCGTCGAAAAACAGTTTGCC
GTTTGTTTGCGTGATGTTGCCGTTTAAATTTGTTCCGCCGGAAAGCAGCAGGGTGCGGTC
TTCTGCGGCGGGCTGGTAAACAAGGTTGAGCCGCCCGTTCGTTTTGGTCGTATCTTTCTC
```

Appendix A   -465-

```
GCCAAACCAACCGTTGTAGGCAATTTCTTTTTTGCTATCCAAGCTGTTGTTATTGCCGGT
TGTAGCAATATCTTTATTGCCTGTAATGGTAACGGTGGATTCTTTGTCTTGATTGTGGTT
GACAATCATCGCCCCTTCATCGGTATTTTGAATACGGTGGAACGAAAGCGAATGCCCGTT
TAAATCCAAACGTCCGCCGCGAAAGCCGAAATAGAGTTTGTCGGGGTTGAACTGATTATC
GGCATTCAGTTGCACCGTACCCCTGCCGCTGACCAAGCCGATTTCACTAAAGGCTTGTTT
TTTGCCTTTATCGTCTGCCTGCTGATCCAAAATGACTGTACCGTCGCCCACGCTGATCGA
GCCTTGGTTTTCCCCTTTGGCTTGAACGTGCAGCGTGCCTTTGCCGATTTTGGACAGGCG
GTCGTTTGCCACGCCGTTTACTTTCCAAGTAACGGTACTGTCTTCACTGATATGAACGCC
CGCGCCTTGCCAAGTTTCGTTATTTTCAGGCGAGACCGTAAAATCTCCTTGGAAATATAA
TCCTCCAGCACCTTGATTGATGTTGCTGGTAAGTATCAATTCGCCTTTTCCTTCGTCAAT
AAAGGAAATATTTTCTCCATTATTCAGTCTGGGTCGATAACTGTTGACACCACCTGCAGC
ATGATAAACAGGTTCTCTTGCTGTCTCGGATAAAGAAACATTAAACAATTGAACGGTTCG
TGTTTTTAATCTATTAGGCAGAGAATTGTGTTCATGTTTGGCATTGATTTTTCCTGTGCC
ATTATTATCGTCGTTAAAAGAGTATTTCCCATTTTGACGTGGTTCGTAGAATACTGAATG
GGTATCTCCAGCAAAGATTTCATCATAGAACCAATCTTTACGAACCAGCTGGAAGCCATT
GCTTTTTCCTATATAGGGGTTGCCCGTTTGCAATACCCCATTAATTAACCACTTTTGCTT
TTGGGCATCATAGATAAACATTGGTGAGCCACTGTCGCCAAATGAGCCTCCTGTTGGTAA
AAAACCATATGGGCTATGTTTAATTTTTTCACTACCTAAGTTGACTGTGCCACCACCTGA
TCCATTTTGTGCAAAGGTATTGCCACCAACGAGCCAAGAATACGCACTTGCAATATGATA
TGAACTTTCGCGGTTATTGGGCTCATCTTCATCAGATCGCCAATATTGCCTGCCTGCCCC
AATACGAACACGGTCAGGGTAATTATTTTGATCGATATATTCCGCCCATCCATATAACT
GGTCATTTCAACAGGTTCTGCATCTGTGACAAATTTATGCAAACGCGGCATATGATAATC
GCCGCCATAAGGATGGCCTTTAGTCCCTGCTTTATAATTATTCCGTTTCACAATTTTATA
AGTAAAACGATGTTGATCGGGATTTCTTCCTTCCGCACCAAAATCAACGTTGTTATAGCC
GCCGTTATGTGCCACGCTCACAATATATTGATCGCCCACCAATGCCGCCACGCCGTTACG
CGACACCACAGAAAAATCAATCATCGGGGCTTTTGTCATTGATTTGCCGACCAACTCCCC
TTTTTTGTTGTAAACCTCAATATCTTTCGCCCCGACTGCAAACTTGCCTTTATTTTCGGC
AAAGTCGCGATAGTATTGGTAGTTGATGCCGAAATAAGTGTGTCCCGCCCAGGCTTGGGG
AAGAATGCCGAACGACAGGCATATGGCTAAGTAAGCAGGCGAGAAGCGGATGCGGCCGGT
TTTCGGGGCTTTGCGGTGTGTTTCGGTTGTCCGTTTGTCGGTTGTTTTCATTATTTTTCC
TTATCTGACGGGATTCGGGTTTGTTTGGGAGGGCGCGGCTTCCGCTTCCGGGCGGCGCGC
GGGATGTGCCTATATGTGCGGTTCGGCGTTCGGGCGGATATGAAGCACGCCCTAGGATTT
GTCATTAATTTTTGCCTTGGTCTCGGCTTCTTCCAATCACGAAAGCACCCGCCAAGGCAA
ACACTGTGCCGCCGGCAAGGGAGGCGGCGGTTGCGGGGTAGCCGCTCCATACGAGGAAGA
CGGCAAAAAGCAGTATCAGGATGGCGCTGATGAAGCGTACAGTTGCCCGCGCCTGTTGA
AGGTTTGGTCTTGCCGTATGGTTTCGTGCCGGACGGCTTGTTCTTTTTCCGCCATTGCCA
TAATGCGGTCTGCCCCGTTGCTGATAATGTCGTTGTATTGCGCCAAGTCGGACGGCGGCG
GCAACGGTCCCGAATGGAAACACCGGGCTATCATTATTTGCACGTACTCGTCGGACAGGA
TTTGCTCGACAAGCTCCGGGGATTTGACGACGGTTTCGACAGCCTGCCGCGCCTTGTCCT
GTGCGTTTTCGGTCATTTTCGCGCTTTCTCTATGGCGCGTTGAAAATCGCCGCCGATGTT
TTTGAGATCGTCGGCGGGATTGGGGCGGATGGCGGTTTTTGCGGGATGGAACAGACCCAG
CAGCGAGCCTATACCGAGCAGGAGGGCGTATGTGTTTCGTTTTTTCATATGGTTATATAT
TAGGTCAGGCGGACGGATTTATCAAGCATTTTTGCGGTTTTATACCGTCTGAAAGCCAAA
CCGTCGGACTTCAGACGGCATTTGCTATAATCGCGGCTGTTTTGAATTTTCGGGGGTTTT
ATGTCGGATAACGTTCCAACGATTGCGGCAGTCGCTACCGCACCAGGGCGCGGCCGGCGTG
GGCGTGATACGCATATCGGGGAAAAACCTGCTGCCGATGGCGCAGGCTTTGTGCGGGAAA
ACGCCCAAGCCGCGTACCGCAACCTATGCTGATTTTACGGACACGGACGGACAGGCAATC
GACAGCGGGCTTTTGCTGTTTTTTGCCGCACCGGCAAGTTTTACGGGTGAAGATGTCATC
GAGCTTCAGGGACACGGCGGGCCGGTGGTGATGGATATGCTGCTGAACCGCTGTTTGGAA
TTGGGCGCGCGCCTTGCCGAACCGGGCGAGTTTACGAAGCGTGCGTTTTTGAACGACAAA
CTGGACTTGGCACAGGCGGAAGGCGTGGCCGATTTGATTGACGCATCCAGCCGTTCGGCG
GCGCGTCTGGCCTTTGCGCTCGCTCAAGGGCGATTTTTCGCGGCGGATACACGGTCTGGTC
GAAGACTTGATTACCTTGCGGATGCTGGTCGAAGCGACGTTAGATTTTCCCGAGGAAGAC
ATTGATTTTCTCGAAGCGGCAGACGCACGCGGCAAACTGGACGGCTTGCGCCGCGCCGTG
GATGATGTGCTTGCCAACGCGCAGCAGGGCGCGATTTTGCGCGAAGGTCTGAATGTCGTA
TTGGTCGGCGCGCCGAATGTGGGCAAGTCCAGCCTGCTGAACCCGTTGGCGGGCGCACGAA
GTGGCGATTGTTACCGATATTGCCGGAACGACGCGCGACGCGGTCAGGGAACGTATCCTG
ATTGACGGCGTGCCGGTGCATATTGTCGATACGGCAGGTTTGCGCGAGACGGACGACGTG
GTCGAGCGTATCGGCATCGAACGCAGCCGCAAAGCCGTATCCGAAGCCGATGTCGCGCTG
GTGTTGGTCGATCCGCGCGAGGGTTTGAATGAAAAGACACGGGCGATTTTGGACGCGTTG
CCGCCGGAGTTGAAACGCATCGAAATCCACAGCAAATCCGATTTGCACGCACACCGGGCA
GGCGGGTTCGGTACGGGCGCGGAAACCGTCATCGCGTTGTCGCGCGAAAACCGGCGACGGC
TTGGACGCGCTGAAACGGACGTTGTTGCGCGAGGCCGGTTGGCAGGGCGAAAGCGAAGGG
TTGTTTTTGGCGCGGACGCGGCACGTCAACGCACTCAAAGCAGCGCAGGAAGAATTGTCG
CTGGCGGCATTGTGCGGCAACCATCAAATCGAGCTGTTTGCCGAACACTTGCGCTTGGCG
CAGGTCGCATGCGGCGAAATCACGGGCGAGTTTACGGCGGACGACCTGCTCGGCGTGATT
TTTTCGAGGTTTTGTATCGGAAAATAAACGGATCGAAAGCATCGTGGTGGTGTCCGGCTG
AACATTCCGTTATCCCATAAAAACGGGAATCCGATCCGTTTGGTTTTATAGTGGATTAAC
AAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACT
TGGTGCTTGAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACT
GGTTTTTTGTTAATCCACTATAGTTTTTTTGAATTTCGGGCAACGCTTGAATCTTCATTCC
GCGCAGGCGGAAATTATCGGTGCGGTACGGCAACTTTTTTCGATATGAAAAGACCGTCAT
TCCTGTAAAAACAAAAAATCAAAAACAGAAAATTGAAATTCGTCATTCCCGCGCAGGCGG
GAATCCAGGACGTAAAATCTATAGTGGATTAACAAAAACCAGTACAGCGTTGCCTTGACT
TAGCTCGAAGAGAACGATTCTCTAAGGTGCTGAAGCACCGAGTGAGTCGGTTCCGTACTA
```

Appendix A   -466-

```
TCCGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATAAAGAAA
CCGTTTTTCTCGATAAGTTTCCGTGCCGACAGACCTGGATTCCCACTTTCGTGGGAATGA
CGGTGGAAAAGTTGCCGTGATTTCGGATAAATTTTCGTAACGCATAATTTCCGTTTTACC
CGATAAATGCCCGCAATCTCAAATCCCGTCATTCCCCAAAACAAAAAATCAAAAACAGA
AATATCGTCATTCCCGCGCAGGCGGGAATCTAGACCTTAGAACAACAGCAATATTCAAAG
ATTATCTGAAAGTCCGGGATTCTAGATTCCCACTTTCGTGGGAATGACGAATTTTAGGTT
TCTGTTTTTGGTTTTCTGTCCTTGCGGGAATGATGAAATTTTAAGTTTTAGGAATTTATC
GGAAAAAACAGAAACCGCTCCGCCGTCATTCCCGCACAGGCTTCGTCATTCCCGCGCAGG
CTTCGTCATTCCCGCATTTGTTAATCCACTATATTCCCGCCGTTTTTTTACATTTCCGAC
AAAACCTGTCAACAAAAAACAACACTTCGCAAATAAAAACGATAATCAGCTTTGCAAAAA
TCCCCCCCCCCCTGTTAATATAAATAAAAATAATTATTAATTATTTTTCTTATCCTGCCA
AATCTTAACGGTTTGGATTTACTTCCCTTCATACTCAAGAGGACGATTGAATGAATACCC
CATTGTTCCGTCTCAGCCTGCTCTCGCTTACCCTGGCGGCAGGTTTTGCCCATGCGGCAG
AAAATAATGCCAAGGTCGTACTGGATACCGTTACCGTAAAAGGCGACCGCCAAGGCAGCA
AAATCCGTACCAACATCGTTACGCTGCAACAAAAAGACGAAAGCACCGCAACCGATATGC
GCGAACTCTTAAAAGAAGAGCCCTCCATCGATTTCGGCGGCGGCAACGGCACGTCCCAAT
TCCTGACGCTGCGCGGCATGGGTCAAAACTCTGTCGACATCAAGGTGGACAACGCCTATT
CCGACAGCCAAATCCTTTACCACCAAGGCAGATTTATTGTCGATCCCGCTTTGGTTAAAG
TCGTTTCCGTACAAAAAGGCGCGGGTTCCGCCTCTGCCGGTATCGGCGCGACCAACGGCG
CGATCATCACCAAAACCGTCGATGCCCAAGACCTGCTCAAAGGCTTGGATAAAAACTGGG
GCGTGCGCCTCAACAGCGGCTTTGCCAGCAACGAAGGCGTAAGCTACGGCGCAAGCGTAT
TCGGGAAAGAGGGCAACTTCGACGGCTTGTTCTCTTACAACCGCAACAATGAAAAAGATT
ACGAAGCAGGTAAAGGCTTCCGTAATAATTTCAACGGCGGCAAAACCGTACCGTACAGCG
CGCTGGACAAACGCAGCTACCTCGCCAAAATCGGAACAAGCTTCGGCGACGGCGACCACC
GCATCGTATTGAGCCATATGAAAGACCAGCCACCGGGGCATCGTACCGTCCGTGAAGAAT
TTACCGTCGGCGGCGATAAAGAGCGAATAAGTATGGAACGCCAAGCCCCTGCTTACCGCG
AAACCACACAATCCAACACCAATTTGGCGTACACGGGTAAAAACCTGGGCTTTGTCGAAA
AACTGGATGCCAACGCCTATGTGTTGGAAAAAGAACGCTATTCCGCCGATGACAGCGGCA
CCGGTTACGCAGGCAATGTAAAAGGCCCCAACCATACCCAAATCACCACTCGGGGTATGA
ACTTCAACTTCGACAGCCGCCTTGCCGAACAAACCCTGCTGAAATACGGTATCAACTACC
GCCATCAGGAAATCAAACCGCAAGCGTTTTTGAATTCACAATTTAAAATTGAAGATAAAG
AAAAAGCAACTGATGAAGAGAAAAATAAGAACCGTGAAATGAAAAAATTGCCAAAGCCT
ACCGTCTGACCAACCCGACCAAAACCGATACCGGCGCGTATATCGAAGCCATTCACGAGA
TTGACGGCTTTACCCTGACCGGCGGGCTGCGTTACGACCGCTTCAAGGTGAAAACCCACG
ACGGCAAAACCGTTTCAAGCAACAACCTTAACCGAGTTTCGGCGTGATTTGGCAGCGAC
ACGAACACTGGAGCTTCAGCGCGAGCCACAACTACGCCAGCCGCAGCCCGCGCCTGTATG
ACGCGCTGCAAACCCACGGCAAACGCGGCATCATCTCGATTGCCGACGGCACGAAAGCCG
AACGCGCGCGCAATACCGAAATCGGCTTCAACTACAACGACGGCACGTTTGCCGCAAACG
GCAGCTACTTCTGGCAGACCATCAAAGACGCGCTTGCCAATCCGCAAAACCGCCACGACT
CTGTCGCCGTCCGTGAAGCCGTCAATGCCGGTTACATCAAAAACCACGGTTACGAATTGG
GCGCGTCCTACCGCACCGGCGGCCTGACTGCCAAAGTCGGCGTAAGCCACAGCAAACCGC
GCTTTTACGATACGCACAAAGACAAGCTGTTGAGCGCGAATCCTGAATTTGGCGCACAAG
TCGGCCGCACTTGGACGGCTTCCCTTGCCTACCGCTTCCAAAACCCGAATCTGGAAATCG
GCTGGCGCGGCCGTTATGTTCAAAAAGCCGTGGGTTCGATATTGGTGGCAGGTCAAAAAG
ACCGCAACGGCAAATTGGAAAACGTTGTACGCAAAGGTTTCGGTGTGAACGATGTCTTCG
CCAACTGGAAACCGCTGGGCAAAGACACGCTCAATGTTAATCTTTCGGTTAACAACGTGT
TCAACACGTTCTACTATCCGCACAGCCAACGATGGACCAATACCCTGCCGGGCGTGGGAC
GTGATGTACGCTTGGGCGTGAACTACAAGTTCTAAAACGCACATCCCGAAAAAATGCCGT
CTGAAAGCCTTTCAGACGGCATCTGTTCTGATAATTTGATATATAGTGGATTAACAAAAA
CCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCAC
CAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTT
TTGTTAATCCACTATAAAGACCGTCGGGCATCTGCAGCCGTCATTCCCGCGCAGGCGGGA
ATCTAGACCTTAGAACAACAGCAATATTCAAAGATTATCTGAAAGTCCGAGATTCTAGAT
TCCCGCTTTCGCGGGAATGACGAAAGGTTGCGGGAATGACGAAAGTGGTGGGAATGACG
AAAAGTGATGGGAATGACGAAAAGTGATGGGAATGACGGTTCGGGCATTCCTTAAATTAC
CCGTGTATCGCTGTAAATCTTAGAGATGGCGGAATATAGCGGATTAACAAAAACCAGTAC
GGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGA
ATCAGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAA
TCCACTATAGATTATCATTTATCCTTTCTAAAGCCGTTCCGGTTTGTCCGACCGGCGGCT
TTGCCCCAATATCCCCATTTTGGAGACACCTATGTTACGTTTGACTGCTTTAGCCGTATG
CACCGCCCTCGCTTTGGGCGCGTGTTCGCCGCAAAATTCCGACTCTGCCCCACAAGCCAA
AGAACAGGCGGTTCCGCCGCACAAACCGAAGGCGCGTCCGTTACCGTCAAAACCGCGCG
CGGCGACGTTCAAATACCGCAAAACCCCGAACGCATCGCCGTTTACGATTTGGGTATGCT
CGACACCTTGAGCAAACTGGGCGTGAAAACCGGTTTGTCCGTCGATAAAAACCGCCTGCC
GTATTTAGAGGAATATTTCAAAACGACAAAACCTGCCGGCACTTTGTTCGAGCCGGATTA
CGAAACGCTCAACGCTTACAAACCGCAGCTCATCATCATCGGCAGCCGCGCCGCCAAGGC
GTTTGACAAATTGAACGAAATCGCGCCGACCATCGAAATGACCGCCGATACCGCCAACCT
CAAAGAAAGTGCCAAAGAGCGCATCGACGCGCTGGCGCAAATCTTCGGCAAACAGGCGGA
AGCCGACAAGCTGAAGGCGGAAATCGACGCGTCTTTTGAAGCCGCGAAAACTGCCGCACA
AGGTAAGGGCAAAGGTTTGGTGATTTTGGTCAACGGCGGCAAGATGTCGGCTTTCGGCCC
GTCTTCACGCTTGGGCGGCTGGCTGCACAAAGACATCCCGCGCTGTCGATGAATC
AATTAAAGAAGGCAGCCACGGTCAGCCTATCAGCTTTGAATACCTGAAAGAGAAAAATCC
CGACTGGCTGTTTGTCCTTGACCGAAGCGCGGCCATCGGCGAAGAGGGTCAGGCGGCGAA
AGACGTGTTGGATAATCCGCTGGTTGCCGAAACAACCGCTTGGAAAAAAGGACAGGTCGT
GTACCTCGTTCCTGAAACTTATTTGGCAGCCGGTGGCGCGCAAGAGCTGCTGAATGCAAG
```

Appendix A   -467-

```
CAAACAGGTTGCCGACGCTTTTAACGCGGCAAAATAATGAAACGGCGGCATTCGATGCCG
TCTGAAACACGGATGCAAACCGCCTCCTGTGTTTCAGACGGCATTGCCCGATACGGAGGC
TTCAAACAAGGCTTTCCGCTCCGACGGTTCGGACTGCCTTGTTTGAATCTTCTACGCCTT
AACGCTTTTCCCTTCTGTTTATGACTGCCAAACCTTTTTCCCTCAACCTGACCAACCTGC
TGCTGCTGGCGGTGTTGTTTGCCGTCAGCCTGTCGGTGGGCGTTGCCGATTTCCGCTGGT
CTGATGTGTTTTCACTGTCCGACAGCCAGCAGGTCATGTTCATCAGCCGCCTGCCGCGCA
CGTTTGCGATTGTGCTGACGGGCGCGTCGATGGCGGTGGCCGGCATGATTATGCAGATTT
TGATGCGCAACCGTTTTGTCGAACCGTCGATGGTGGGCGCAAGCCAAAGCGCGGCTTTAG
GTTTGCTGCTGATGACCCTGCTGCTGCCGGCCGCGCCGCTGCCGGCGAAAATGTCGGTTG
CCGCCGTTGCCGCGCTGATCGGGATGTTGGTCTTTATGCTGCTGATCCGCCGCCTGCCGC
CGACCGCGCAACTGATGGTGCCTTTGGTCGGGATTATTTTCGGCGGTGTGATTGAGGCGG
TAGCCACCTTTATCGCGTATGAAAACGAAATGCTGCAAATGCTCGGCGTGTGGCAGCAGG
GCGATTTTTCGAGCGTGCTGCTGGGGCGGTACGAGCTGCTTTGGATTACGGGCGGTTTGG
CGGTGTTTGCCTATCTGATTGCCGACCGGCTGACGATTTTGGGGCTGGGCGAAACGGTAA
GCGTGAATTTGGGTTTGAACCGGACGGCGGTGTTGTGGTCGGGTTTGATTATTGTGGCTT
TGATTACGTCGCTGGTTATCGTTACGGTCGGCAATATTCCGTTTATCGGGCTGGTCGTGC
CGAACATCATCAGCCGCCTGATGGGCGACAGGTTGCGCCAAAGCCTGCCTGCGGTGGCCT
TGCTGGGCGCATCTTTGGTGTTGCTGTGCGACATTATCGGACGCGTGATTGTGTTTCCGT
TTGAAATTCCGGTCTCTACGGTTTTTGGTGTATTGGGTACGGCTTTGTTTTTGTGACCTTG
TGTTGAGGGAAACCCGCCTATGCCGTCTGAAAAAAAATATCGGTTTTATGGCAGGAAGCAGC
CGCCCGTTGTGGGTCGCCTTTGCGCTGTTGCTGGTTTCCTGCGTCCTGTTTATGACGCTC
AACGTCAAAGGCGATTGGGATTTTGTTTTGCAACTGCGGCTGACCAAACTTGCCGCGCTG
CTGATGGTCGCCTATGCGGTCGGCGTGTCCACGCAACTCTTCCAAACGCTGACCAATAAT
CCGATTCTGACCCCTTCAATTTTGGGTTTCGATTCGCTGTATGTGTTTTTGCAGACCTTG
CTGGTGTTTACGTTCGGCGGCGTGGGCTATGCTTCCCTGCCGTTGACGGGCAAATTCGGC
TTTGAACTGGTCGTCATGATGGGCGGCTCGCTGCTGCTGTTCTACACGCTCATCAAACAG
GGCCGGACGCGATTTGTCGCGCATGATTTTAATCGGCGTGATTTTCGGGATTTTGTTCCGC
AGCCTGTCGTCGCTGCTTTCGCGCATGATCGATCCCGAAGAATTTACCGCCGCGCAGGCG
AATATGTTTGCCGGATTCAATACCGTCCACAGCGAGCTTTTGGGCATAGGCGCGCTGATT
CTGCTCGTCAGCGCGGCGGTCGTTTGGCGCGAACGCTACCGCTTGGACGTTTACCTTTTG
GGGCGTGACCAAGCCGTCAATTTGGGCATCAGCTACACGCGCAACACCTTATGGATACTG
CTTTGGATTGCCGCATTGGTGGCGACGGCGACCGCCGTGGTCGGCCCCGTAAGCTTTTTC
GGGCTTCTCGCCGCGCCTCGCTTGCCAACCACTTTTCCCCGTCGGTCAAACATTCCGTCCGC
CTGCCGATGACGGTTTGTATCGGCGGCATCCTCTTGGTCGGCGGACAGACCGTGTTCGAA
CACCTGCTCGGTATGCAGGCAGTGTTGAGCGTAGTAGTAGAATTTGCCGGCGGACCTCGTT
TTCCTCTATCTCGTTTTAAAACACAAAAAATGACGGATGCCGTCTGAACGGCCGCCGCCC
CGAAAGGACAAACCATATGACACAAGAACATTTCCCATCATTCTTCAACCAAGCCCCGAC
CATTACCGTCCAAGACGCATTGGCCGAATTCCTCGGCGCGGCCGAAAACGGCATCCTCAC
TTACCGCTACGCCGATGCCGTGCGCCTGTGCGGACATTCCTGCCCGACCGTCGCGGGCGC
GTACCTGATGGTTATCAAAGGTCTGAAAGCACTTTACGGCGAAGAGCTGCCCGAACGCGG
CGGCATCGAAGCCTTTATGCAGGGCGCGCGCGACGAAGGCACGGTCGGCGTAACCGCGTC
CGTCGTCCAACTCCTCACCGGCGCAGCCCCCGAAACCGGCTTTGGCGGCATCGGAATGCA
GGGACGCTTTGCCCGCCGCCACCTCTTATCCTTTGGTGTAGGCGAAATCAACGGCACACT
GACCCTGCGCCGCAAAGACAACGGCAAAACCGTCGCCGTCGGCCTCAACGCCGCCCTGCA
ACCCTTCGCCACCCGAAATGCGCGACATCATGCCCAAAGCCGTCAGCGGCGAGCGCAAGCGC
AGAAGAACTCGAACGCTTCGGACAACTCTGGCAGGCACGCGTTAAAGCATTTTTAACCGA
ATCGGCGGACGACCCGCAGTTCGTCATCGTCCGCGAAGTGTGAGCGTTCAGACGGCATTC
CGAATTTCAAATGCCGTCTGAACCCCGCCAAACAACAACAAACCTACGCCCGACAAGCAT
CCGCCATGATTACCATCCGCAACGTCAGCTACCGCATCGGCACACGCCCCATCCTCGACA
ACGTCAGCCTCGACATCCCCGAAGGCGGGCATTACCGCCCTCGTCGGCCCCAACGGTGCGG
GCAAATCCACCCTGTTTTCCTTTATGGCGCGGCTGCGACCGCTTGAAAGCGGCAGCATCG
CCTACCGAGGCAAAAATCTTGCCGATACCCCCACCGCCGAACTCGCCAAAACCCTGTCCA
TCCTCACCCAAGAAAACAGCATCATGAGCCGCATCACCGTGCGCGACCTGCTGATGTTCG
GCCGTTACCCCTACCATCAAGGCAGACCGACTGCCGAATGCCGCCGTATCGTTAACGGTG
CAATCGAAGAATTCCACCTGCAAGACCTCTCCGACCGCTACCTGACCGAGCTTTCCGGCG
GCCAACGCCAACGCGCCATGATTGCGATGGTGTTCTGCCAAAGCACCGACTACGTCCTTT
TGGACGAACCGCTGAACAACCTCGATATGTATCACGCCCGCTCGCTCATGCAAATCCTGC
GCCGGCTGACCGACGAACACAAGCGCACCACCGTCGTCGTATTGCACGACATCAACCAGG
CAGCAGCCTACGCCGACCACGTCGTCGCCATGAAAAACGGCCAAGTCGCCATGCAGGGCA
AACCCAACGATATTTTCACCGCCGCAAACATCAAAAACCCTATTCGATATGGACGTCGACG
TCCTCGATTACGAAGGCAAAAAATTGGTTATCCACCATATCTAAATCCGCAAAAAGGCC
GTCTGAACATTCAGACGGCAACCCATATCCTGACAAAATTAAGACACGACACCGGCAGAA
TTGACATCAGCATAATATGCACATATTAACAGATATTAATGCCGAACTACCTAACTGCAA
GAATTAAATAAATAAATAAATAAATAAATAAATAAATAAATTGCGACAATGTATTGTATA
TATGCCTCCTTTCATATATACTTTAATATGTAAACAAACTTGGTGGGGATAAAATACTTA
CAAAAGATTTCCGCCCCATTTTTTATCCACTCACAAAGGTAATGAGCATGAAACACTTTC
CATCCAAAGTACTGACCACAGCCATCCTTGCCACTTTCTGTAGCGGCGCACTGGCAGCCA
CAAGCGACGACGATGTTAAAAAAAGCTGCCACTGTGGCCATTGTTGCTGCCTACAACAATG
GCCAAGAAATCAACGGTTTCAAAGCTGGAGAGACCATCTACGACATTGGTGAAGACGGCA
CAATTACCCAAAAAGACGCAACTGCAGCCGATGTTGAAGCCGACGACTTTAAAGGTCTGG
GTCTGAAAAAAGTCGTGACTAACCTGACCAAAAACCGTCAATGAAAACAAACAAAAGGCG
ATGCCAAAGTAAAAGCTGCAGAATCTGAAATAGAAAAGTTAACAACCAAGTTAGCAGACA
CTGATGCCGCTTTAGCAGATACTGATGCCGCTCTGGATGAAACCACCAACGCCTTGAATA
AATTGGGAGAAAATATAACGACATTTGCTGAAGAGACTAAGACAAATATCGTAAAAATTG
ATGAAAAATTAGAAGCCGTGGCTGATACCGTCGACAAGCATGCCGAAGCATTCAACGATA
```

Appendix A   -468-

```
TCGCCGATTCATTGGATGAAACCAACACTAAGGCAGACGAAGCCGTCAAAACCGCCAATG
AAGCCAAACAGACGGCCGAAGAAACCAAACAAAACGTCGATGCCAAAGTAAAAGCTGCAG
AAACTGCAGCAGGCAAAGCCGAAGCTGCCGCTGGCACAGCTAATACTGCAGCCGACAAGG
CCGAAGCTGTCGCTGCAAAAGTTACCGACATCAAAGCTGATATCGCTACGAACAAAGCTG
ATATTGCTAAAAAACTCAGCACGCATCGACAGCTTGGACAAAAACGTAGCTAATCTGCGCA
AAGAAACCCGCCAAGGCCTTGCAGAACAAGCCGCGCTCTCCGGCCTGTTCCAACCTTACA
ACGTGGGTCGGTTCAATGTAACGGCTGCAGTCGGCGGCTACAAATCCGAATCGGCAGTCG
CCATCGGTACCGGCTTCCGCTTTACCGAAAACTTTGCCGCCAAAGCAGGCGTGGCAGTCG
GCACTTCGTCCGGTTCTTCCGCAGCCTACCATGTCGGCGTCAATTACGAGTGGTAAGCAG
CATCTCCCGATAAAGAAACCGCAGCCCTGCAAGGCTGCGGTTTTTATTTTCTATCCGGCC
GTCAGACTGCCGCGTCCGAACGTTCGCCCGTGCGGATACGGATTGCCTCCTCAACCGGCA
GCACAAAATCTTGCCGTCGCCGATTTTTCCCGAACGCGCCACCTCGAAATCACGTCAAT
CGCGCGTTCCACAGCATCATCCGCCAACACCAGCTCGATTTTGATTTTGGGCAGGAAATC
GACGGCGTATTCCGCGCCGCGATAGATTTCCGTATGCCCCTTCTGCCTGCCGAACCCTTT
GACCTCGCTGACGGTCATGCCCGTAATGCCGATTCCGTCAACGCCTCGCGCACGTCGTC
GAGTTTGAACGGTTTGACAATCGCCTCGATTTTTTTCATAAAATTTCCTTTGAACAAACA
ATACAAACACATCCGAAAAACGGGAACCTCCCGTCAGATTGTCAACATTTTTAAGCCAAAA
TACCCAAGCAATACAGCCCCGTTGCGCGTATAATGACAGATTTTCCAACCGCATTTGAGA
GCCGAATCCATGTCTGTCGTTTTGCCCTTGCGCGGCGTTACCGCCCTTTCCGATTTCCGT
GTTGAAAAACTCTTGCAAAAAGCCGCCGCACTCGGTCTGACCCGAAGTCAAATTAAGCAGC
GAATTTTGGTATTTCGTCGGCAGCGAGAAAGCACTTGATGCCGCGACTGTCGAAAAACTG
CAAGCCTTGTTGGCGGCGCAAAGCGTTGAACAAACGCCAAAAGCGCGCCAGGGCTTGCAT
TTGTTTTTGGTCACGCCCCGTTTGGGTACGATTTCGCCGTGGGCTTCCAAGGCGACCAAT
ATCGCGGAAAACTGCGGTTTGGCAGGCATCGAACGCATCGAGCGCGGTATGGCGGTGTGG
CTGGAAGGTCGTCTGAACGATGAACAGAAACAGCAATGGGCGGCTTTGCTGCACGACCGC
ATGACCGAAAGCGTGCTGCCCGATTTTCAGACGGCCTCCAAATTATTCCACCATCTCGAA
TCCGAAACTTTCTCCGGCGTCGATGTTTTGGGCGGCGGTAAAGAAGCTTTGGTCAAAGCC
AATACCGAAATGGGCTTGGCACTTTCCGCCGACGAAATCGATTATCTGGTCGAAAACTAT
CAGGCTTTGCAGCGCAATCCGTCCGATGTTGAATTGATGATGTTCGCGCAGGCAAACAGC
GAACACTGCCGCCACAAAATCTTCAACGCCGATTTCATCCTCAACGGCCAAAAGCAGCCC
AAATCCCTCTTCGGTATGATACGCGACACACACAACGCGCATCCCGAAGGCACGGTCGTT
GCCTATAAAGACAATTCGTCCGTAATCGAAGGCGCGAAAATCGAGCGTTTCTATCCGAAT
GCGGCGGAAAACCAAGGCTACCGTTTCCACGAGGAAGACACGCATATCATCATGAAAGTG
GAAACGCACAACCACCCGACCGCCATCGCGCCGTTTGCGGGTGCGGCGACGGGCGCGGGC
GGCGAAATCCGCGACGAAGGCGCGACGGGCAAAGGTTCGCGTCCGAAAGCGGGCCTTGGCC
GGCTTTACCGTGTCCAACCTCAATATTCCCGACCTCAAACAGCCGTGGGAACAAGACTAC
GGCAAGCCGGAACATATTTCCTCGCCGCTGGACATCATGATTGAAGGCCCGATCGGCGGC
GCGGCGTTCAACAACGAATTCGGCCGCCCCAACCTCTTGGGCTACTTCCGCACTTTTGAA
GAAAAATTTGACGGTCAGGTTCGCGGCTATCACAAACCGATTATGATTGCCGGCGGCTTG
GGCAGCATTCAGGCGCAGCAGACGCATAAAGACGAAATCCCCGAAGGGCCATTGCTGATC
CAACTGGGCGGCCCGGGTATGCTTATCGGCTTGGGCGGCGGCGCGGCTTCTTCGATGGAT
ACCGGCACAAACGACGCGTCTTTGGACTTCAACTCCGTGCAACGCGGCAACCCCGAAATC
GAACGCCGCGCGCAGGAAGTCATCGACCGCTGCTGGCAGCTCGGCGGCAAAAACCCGATT
ATCTCCATCCACGACGTAGGCGCGGGCGGCCTGTCCAACGCCTTCCCCGAACTGGTCAAC
GATGCCAGACGCGGGCGCAGTATTCAAGCTGCGCGAAGTGCCGCTTGAAGAACACGGCCTC
AACCCGCTGCAAATCTGGTGCAACGAATCGCAAGAGCGTTATGTGTTGTCGATTTTGGAA
AAAGATTTGGATGCTTTCCGCGCCATCTGCGAACGCGAACGCTGCCCGTTTGCCGTAGTC
GGCACGGCGACTGACGACGGTCATTTGAAAGTACGCGACGATTTGTTCGCCAACAATCCC
GTCGATTTGCCGTTGAACGTCTTGCTCGGCAAACTGCCCAAAACCACGCGCACCGACAAA
ACGGTTGCACCGTCCAAAAAACCGTTTCACGCGGGCGATATCGACATTACCGAAGCCGCC
TACCGCGTTTTGCGCCTGCCTGCCGTAGCCGCCAAAAACTTCCTGATTACCATCGGCGAC
CGCAGCGTCGGCGGTTTGACGCACCGCGACCAAATGGTCGGCAAATATCAAACTCCAGTA
GCCGACTGCGCCGTTACCATGATGGGCTTCAACACCTATCGCGGTGAAGCGATGTCTATG
GGCGAAAAACCGACCGTCGCCCTGTTTGATGCGCCTGCTTCGGGCAGAATGTGCGTCGGC
GAAGCCATCACCAACATCGCGGCGGTCAACATCGGAGACATCGGCAACATCAAACTCTCC
GCCAACTGGATGGCGGCGTGCGGCAACGAAGGCGAAGACGAAAAACTCTACCGCACTGTC
GAAGCCGTTTCCAAAGCCTGTCAGGCATTGGATTTGAGCATCCCCGTGGGCAAAGACAGC
CTGTCGATGAAAACCGTTTGGCAGGACGGCGAGGAGAAAAAATCCGTGGTTTCACCGTTG
AGCCTGATTATCTCAGCGTTCGCGCCTGTGAAAGACGTACGCAAGACTGTTACGCCTGAG
TTGAAAAACGTCGAAGACAGCGTATTGTTGTTTGTCGATTTGGGCTTCGGCAAAGCGCGT
ATGGGCGGTTCGGCGTTTGGTCAGGTGTACAACAATATGGCGGCGGCGACCGCGCCCGATTTG
GACGATACAGGTCGTCTGAAAGCCTTTTACAGTGTGATTCAGCAGCTTGTTGCCGAAAAC
AAACTCTTGGCGTATCACGACCGCAGCGACGGCGGCTTGTTTGCCGTTTTGGTAGAAATG
GCGTTTGCGGGGCGGTGCGGCTTGGATATAGATTTAAATTTATTGCTTGCACAAACATTT
ATTACCAACCATACCGCTCTGTCTCAATCATTGCGGACTGAAGAGGTAAAAGCGTTGGCT
GAATGGCAAGAAACCATTGCCCGCACATTATTTAATGAAGAGTTGGGTGCTGTTATCCAA
GTTAGAAAACAAGATGTTGCCGATATTATCAATTTATTCTATCAACAACAGCTGCATCAT
AATGTCTTTGAAATCGGTACGTTAACTGATGAGAACACGTTAATCATCGCGACGGGCAA
ACGCACCTTATTTCTGACAACCTAATCAAACTGCAACAAACCTGGCAAGAAACCAGCCAT
CAAATCCAACGCCTGCGCGACAACCCTGCCTGCGCCGACAGCGAGTTCGCACTGATTGGC
GACAACGAACGCAGCGCATTGTTTGCCGACGTGAAGTTCGACGTGAACGAAGACATCGCC
GCGCCGTTTATCAACGACGGCGCGAAACCCAAAATCGCCATCCTGCGCGAACAGGGCGTA
AACGGGCAAATCGAAATGGCCGCCGCCTTTACCCGCGCCGGATTCGATGCTTACGACGTG
CATATGTCCGACCTGATGGCAGGCCGCATCCACCTCGCCGACTTCAAAATGCTGCGGCGG
TGCGGCGGCTTCAGCTACGGCGACGTACTCGGCGCGGGCGAAGGCTGGGCGAAATCGATT
```

Appendix A   -469-

```
CTGTTCCACCCTGCTCTGCGCGACCAGTTTGCCGCCTTCTTCGCCGACCCGGACACGCTG
ACATTGGGCGTGTGCAACGGCTGCCAAATGGTCAGCAACCTTGCCGAAATCATCCCCGGC
ACGGCAGGCTGGCCGAAGTTCAAACGCAACCTGAGCGAACAGTTTGAAGCACGCCTGAGC
ATGGTTCACGTTCCGAAATCAGCGTCGCTGATTCTGAACGAAATGCAAGGCTCCAGCCTG
CCTGTCGTGGTCAGCCACGGCGAAGGCCGCGCCGACTTCGCGCTTCACGGCGGCAATATT
TCCGCCGATTTGGGCATTGCGCTGCAATACATCGACGGACAAAACCAAGTGACCCAAACT
TATCCGCTCAACCCCAACGGCTCGCCTCAAGGCATCGCCGGCGTTACTAACGCCGACGGC
CGCATCACCATCATGATGCCCCACCCCGAACGCGTGTACCGTGCCGCGCAAATGAGCTGG
AAACCGGAAGGCTGGACGGAACTGTCCGGCTGGTACCGCCTCTTTGCCGGCGCACGTAAA
GCCTTGGGCTAACCGCCCTACTCAAACCAATGCCGTCTGAAGAATATTTCAGACGGCGTT
CCGGCATACCATCCTTTAAACGGTATCCGTCCACCGAGGAACACTCATGAAAATCACCCC
CGTCAAAGCCCTAACCGACAACTACATCTGGATGATACAGCACGGCAACCATGCCGTCTG
CGTCGACCCTTCCGAACCCTCGCCCGTCTTGGAATTCCTCGTCCGCAACCGCCTCATGCT
TGCCCAAACATGGGTAACTCACCCCCATCCCGACCACGAGGGCGGTGCGGCGGCACTCTG
GCGCGGCTACATGGAATCGCCCGTTTACGGCGAATCCGACATCGAAGCAGCAACCCACAC
CGTAACCGCCGGCCACCCAATTCACCTTCGGCGACGGACAGGTTACCGTTTGGGCAACACC
CGGCCACACAGACCGCCACACCAGCTACCTTCTCGAAACTTCAGACGGCATACACGTCTT
TTGCGGCGACACCCTTTTTTCCGCCGGCTGCGGACGCGTGTTTACCGGCACAATCGAACA
GCTTTACGACAGCTTCCAACGCTTCAACCGCCTGCCTGAAAACACCCTGTTCTATCCGGC
GCACGAATACACCGCCGCCAACCTGCGTTTCGCCGCCCATATCGAGCCGGACAACGCCGA
CATTCAGACGGCACTGAAAGCGGCGGCGCATACGCCTACCCTGCCCGTTACCCTCGCGCA
CGAACGCCGCGTCAATCCGTTTTTGCGCGTCGACCTGCCGCACGTCAGAGACCGCGCCGA
GGCATTGAGCGGGAAAACGTTAAACAGCAGCCTCGATACCTTTGTCGCGCTGCGTGAACT
TAAAAACCAATACCGGACGAAATAAAACAACGGGAAAACGCAGCCATTCCTAGGATTTTT
ATTAAAATCTTAAATAAAATCATACAATCATCGCCAATAGACGAAAGGACACCGTTGCCT
TATAATCAAACAAAAACAAAATATATAATATAGTGGATTGAATTTAAATCAGGACAAGGC
GACGAAGCCGCAGATAGTACGGCAAGGCGAGGCAACGCTGTACTGGTTTTTGTTAATCCA
CTATATTGTTAATCCACTATATAAATCCAGCACAAAACGGGATCGGTGATTCTTGTCCGC
AAGAATCGTTGATTTTCTCTATTACACGGATAATCATCATGCGCTTCACACACACCACCC
CATTTTGTTCCGTATTGTCCACCCTCGGTCTTTTTGCCGTTTCCCCTGCTTACTCATCCA
TTGTCCGCAACGATGTCGATTACCAATATTTTCGCGACTTTGCCGAAAATAAAGGCGCGT
TCACCGTAGGTGCAAGCAATATTTCCATCCAAGACAAGCAAGGCAAAATATTAGGCAGGG
TTCTCAACGGCATCCCCATGCCCGACTTCCGCGTCAGCAACCGCCAAACCGCCATCGCCA
CCCTGGTTCACCCCCAATACGTCAACAGTGTCAAACACAACGTCGGCTACGGTTCCATAC
AATTCGGCAACGACACCCAAAATCCAGAAGAACAAGCCTATACCTACCGCCTCGTATCAC
GCAACCCGCACCCGGACTACGACTACCACCTTCCCCGCCTCAACAAACTGGTTACCGAAA
TCTCACCTACCGCACTCAGCAGCGTACCCTTGCTTGGAAACGGCCAGCCAAAGGCCAATG
CCTACCTCGATACCGACCGCTTCCCCTACTTTGTACGACTCGGCTCAGGCACGCAACAAG
TCCGCAAAGCAGACGGCACGCGTACACGAACCGCCCCGGCATACCAATACCTGACCGGCG
GCACGCCGCTGAAAGTATTGGGGGTTCCAAAACCACGGCTTACTCGTCGGCGGCAGCCTGA
CCGACCAACCCCTTAACACCTACGCAATCGCCGGAGACAGCGGTTCCCCCCTGTTTGCCT
TCGACAAGCATGAAAACCGCTGGGTGCTTGCGGGCGTACTCAGCACCTACGCCGGCTTCG
ATAATTTCTTCAACAAATACATCGTCACGCAACCCGAATTCATCCGTTCCACCATCCGCC
AATACGAAACCCGGCTGGATGTCGGGCTGACCACCAACGAACTCATATGGCGCGACAACG
GTAATGGCAACAGCACCCTGCAAGGGCTCAACGAACGCATCACCCTGCCCATTGCAAACC
CTTCGCTTGCCCCACAAAACGACAGCAGGCACATGCCGTCTGAAGATGCCGGCAAAACGC
TCATCCTATCCAGCAGGTTCGACAACAAAACACTGATGCTGGCAGACAATATCAACCAAG
GCGCAGGCGCATTGCAGTTCGACAGCAACTTCACCGTCGTCGGTAAAAACCACACATGGC
AAGGTGCAGGCGTTATCGTAGCCGACGGCAAACGCGTCTTCTGGCAAGTCAGCAACCCCA
AAGGCGACCGGCTCTCCAAACTGGGCGCAGGCACGCTTATCGCCAACGGACAAGGCATCA
ACCAGGGCGACATCAGCATCGGGGAAGGCACTGTCGTACTCGCCCAAAAAGCTGCTTCAG
ACGGCAGCAAACAAGCATTCAACCAAGTCGGCATCACCAGCGGCAGGGGCACGGCCGTCC
TCGCCGACAGCCAGCAAATCAAACCCGAAAACCTCTATTTCGGCTTCAGGGGCGGACGGC
TCGACCTCAACGGCAACAACCTTGCCTTTACCCATATCCGCCATGCGGACGGCGGCGCGC
AAATCGTCAATCACAACCCTGACCAAGCCGCGACACTGACGCTGACCGGCAACCCCGTCC
TCAGTCCCGAGCATGTCGAGTGGGTGCAATGGGGCAACCGTCCCGAAGGCAACGCGGCGG
TTTACGAATACATCAACCCGCACCGCAACCGTCGGACCGACTACTTCATACTCAAACCCG
GCGGCAACCCGCGCGAATTTTTCCCGTTAAATATGAAAAACTCAACAAGCTGGCAATTTA
TCGGCAACAACAGGCAACAGGCCGCCGAACAAGTCGCCCAAGCCGAAAATGCCCGCCCCG
ACCTGATTACCTTCGGCGGATACTTGGGTGAAAACGCGCAAACGGGCAAAGCCGCGCCGA
GTTACAGCAAAACCAATGAAGCAGCCATAGAAAAAACCCGCCATATCGCAAATGCCGCCG
TATACGGCCGGCCCGAATACCGTTACAACGGCGCACTCAACCTGCACTATCGTCCCAAAC
GCACCGACAGCACGCTGTTGCTCAACGGCGGCATGAACCTTAACGGGGGAAGTCTTGATTG
AGGGCGGCAATATGATTGTGTCAGGCAGGCCCGTACCCCATGCCTACGACCACCAGGCCA
AACGCGAACCCGTTCTTGAAAACGAATGGACCGACGGCAGCTTCAAGGCTGCACGGTTCA
CCCTGCGAAACCATGCCCGACTGACGGCAGGGCGCAATACCGCGCATCTGGACGGCGACA
TAACCGCATACGATCTGTCCGGCATCGACCTCGGCTTTACCCAAGGCAAAACACCGGAAT
GCTACCGCTCCTACCATAGCGGCAGCACCCACTGCACACCCAACGCCGTTTTAAAAGCCG
AAAACTATCGTGCACTACCTGCAACGCAAGTACGCGGCGACATTACCCTTAACGACCGTT
CAGAGCTCCGCCTGGGCAAAGCACACCTGTACGGCAGCATCCGTGCCGGCAAAGACACCG
CAGTCCGCATGGAAGCAGACAGCAACTGGACACTTTCCCAGTCCAGCCACCACCGGCGCAC
TGACGCTTGACGGCGCACAAATTACCCTGAACCCCGATTTCGCCAATAATACACACAACA
ACCGCTTCAACACACTGACCGTCAACGGCACACTTGACGGGTTCGGCACATTCCGATTCC
TGACCGGCATCGTCCGAAAACAAAATGCCCCCCCCCTCAAACTGGAAGGGGACAGCCGCG
GCGCATTCCAAATCCACGTCAAAAACACCGGACAAGAACCTCAAACAACCGAATCGCTTG
```

Appendix A   -470-

```
CACTTGTGAGCCTCAATCCGAAACACAGCCACCAAGCCCGATTCACCCTCCAAAACGGCT
ATGCCGATTTGGGTGCCTACCGCTACATCCTCCGCAAAAACAACAACGGATACAGCCTGT
ACAACCCGCTCAAAGAGGCCGAACTTCAAATTGAAGCCACGCGTGCGGAACATGAGCGCA
ACCAACAGGCATACAACCAATTACAGGCAACCGACATCAGCAGACAGGTTCAACATGACT
CTGACGCGACCAGGCAGGCACTACAGGCCTGGCAGAACAGTCAAACCGAACTTGCCCGCA
TCGACAGCCAAGTCCAATATCTGTCCGCCCAATTGAAACAGACAGACCCGCTGACCGGCA
TTCTGACGCGTGCCCAAAACCTGTGTGCCGCACAAGGATACAGTGCCGATATCTGCCGTC
AGGTTGCCAAAGCCGCCGACACGAACGACCTGACACTCTTCGAAACCGAACTGGATACGT
ATATAGAACGTGTAGAAATGGCCGAATCCGAACTTGACAAAGCACGGCAAGGCGGCGATG
CGCAAGCCGTCGAAACAGCCCGGCACGCCTACCTGAACGCACTCAACCGTCTGTCCCGAC
AAATCCACAGTTTGAAAACCGGCGTTGCCGGCATCCGTATGCCGAACCTGGCCGAACTGA
TCAGCCGGTCGGCCAACACCGCCGTTTCCGAACAGGCCGCCTACAATACCGGCCGGCAAC
AGGCGGGACGCCGCATCGACCGCCACCTTACCGATCCGCAGCAGCAAAACATCTGGCTGG
AAACCGGTACGCAACAAACCGACTACCATAGCGGCACACCACCGTCCCTACCAACAAACTA
CCAACTATGCACATATCGGCATCCAAACCGGCATCACCGACGCCGTCTCAGTGTCGGTACGA
TTTTAACCGATGAGCGCACAAACAACCGTTTTGATGAAGGCGTATCCGCCCGAAACCGCA
GCAACGGCGCACATCTGTTCGTCAAAGGGGAAAACGGCGCACTCTTTGCCCGCGGCAGATT
TAGGCTACAGCAACAGCCGTACCCGATTTACCGATTATGACGGGGCTGCCGTCCGCCGCC
ACGCATGGGATGCAGGCATCAACACCGGCATCAAAATCGATACCGGCATCAACCTCAGAC
CCTATGCCGGCATCCGTATAAACCGCAGCAACGGCAACCGGTACGTACTCGACGGCGCAG
AGATAAACAGCCCGGCGCAAATCCAAACCACATGGCATGCCGGCATCCGTCTCGATAAAA
CCGTCGAACTGGGTCAAGCCAAGCTGACCCCCGCCTTCAGCAGCGATTACTACCATACCC
GCCAAAACAGCGGTTCCGCCCTCAGCGTCAACGACCGTACCTTACTGCAGCAAGCCGCCC
ACGGCACACTGCATACCCTGCAAATCGACGCCGGATACAAAGGCTGGAACGCCAAACTTC
ATGCCGCTTACGGCAAAGACAGCAACACCGCCCGCCACAAGCAGGCAGGAATCAAAATAG
GCTACAACTGGTAACAAGCCGATAAAAATGCCGTCTGGAACCCGCGTTTCAGACGGCATT
TGCGTTAAAAATAGTAAACCGTTCCAAAAGGGAGTAGAATAGTGCCGTTTCCAACCCTGC
GCCTGTACCGTCAGGCTTTTATTATGGACCTTCCCAGTTCGTTTTTACTGAACACCCCAT
CCGATTCAAACCCGCAATAACCATCCCGCCGGAATGCCTCCCCGCACACGGCGGGCGGAG
CATTTATGAGCATCGAACCAACCCCTCCGAACCTTGAAAACGACGGTATCGAAAACGATG
TAGAACGCGTTTCCGCCGATTTCGACCGTGTCCACTCCCTCTGCGAAATCCTCGAACCTG
CTTTTGAACAAATCGAAAACGGTACACCGCTCGAAGACGCGCCGCTGCGCGACAAGCTGA
CCGAGCTGACCGTCCTCTTGAGCGAGCTGCACCCTGCCGACGTGGCGGCGGTATTGGAAT
CGCTACCGCCGCGCGAACGCAATATCGTCTGGATTCTGGTCAAACCGGAAGACGACGGCG
AAGTATTGCTGGAAGTATCCGACGCGGTGCGCGAAACGCTGATCGAGTCGATGGACAAAG
ACGAATTCTTGGCAGCGGTCGATGATTTGGACGCGGACGAATTGGCGGAACTGGCAGACG
ATTTGCCGCACCAAGTGGTTTACGAAGCGCTACAAACCCGCGATGAGGAAGAACGCGCCC
AAGTCAAAGCGGCAATGTCCTACGAAGACAACCAAGTCGGTGCGATTATGGACTTCGAGT
TGGTCAGCATCCGCGCCGATGTCGCCTGTGAAGTGGTGCTGCGCTATCTGCGCCGCTTCG
ACAGCCTGCCCGACCATACCGACAAGATTTTTGTGGTCGATGAAAACGACGTACTGCAGG
GCGTGCTGCCCATCCGCAAACTTTTGGTCGCCGATCCCGAAGACTTGGTGGAAAACGTGA
TGGCGAAAGATGTCGTGCGCGTTTCCGCGCCGAAGATGACGTGGAAGAAGCGGCGCAGGCGT
TTGAACGCTACGACTTGGTTACCGCGCCCGTCGTCGATGAAAACAAAAAGCTCATCGGCA
GGATTACCATCGACGAGATGGTGGACGTGATCCGCGAAGAATCGGAAGCGGATATGCTGA
ATATGGCGGGTTTGCAGGAAGAGGAAGACCTGTTCGCCCCCGTGTGGGATTCGGTGAAAA
ACCGCTGGATGTGGCTCGCCGTCAACCTCTGCACCGCCTTCCTCGCCAGCCGTGTTATCG
GCGCGTTTGAAGGCAGCATCGAAAAAAATCGTCGCACTCGCCGCGCTGATGCCCATCGTCG
CCGGCATAGGCGGTAACTCGGGCAACCAGACGATTACCATGATTGTCCGCGCGATGGCGA
TGGGGCAGCTGACGGATATGCAGGCGGGGCGTTTGCTGAAAAAAGAAGTCGGTGTCGCCT
TGGTCAACGGCATCATTTGGGGAACGGTCATGGGCGCAGTATCTTGGCTGCTTTACGGCA
GCCTCGGCATCGGGCTGGTTATGATTGCCGCGATGACGCTCAACCTCCTGCTGGCCGGCAA
CCGTCGGCGTATTAATTCCCGTGGTAATGGAAAAGTTCGGACGCGATCCCGCACTGGGCA
GCTCGGTGCTGATTACCGCCGTTACCGACTCCGGCGGCTTCCTGATTTTCTTGGGGCTCG
CCACCCTATTCCTGCTTTAAATGCCGTCTGAACCCGCGCAAAAATGCCGTCTGAAGCGGA
AGCTGCTTCAGACGGCATTTGACTATTTATCCTTGTTGCACAAGATTATTGGACGGTATG
CCGGGGCAGCCCTTTGGCAACGCCGACCACATCCTCCCCGAACGGCGTTCCGACATCGGT
TTCGTCAAACACATATTTGCTGTGGCAGAAATCGCAATCGACTTCGATGCTGCCTTGTTC
CACCACCACGCCGCCGACTTCTTCCCCGCCCAGCATCAACAGCATATCGCTGACTTTGCC
GCGCGAACAGGTGCATGAAAATTCAAACGTTTCCGGCTCGAACACGCGCGGCGGCGTTTC
GTGGAACAGGCGGTATAAAACGTGTTGCGCGTCCAGTCCTGCCAGCTCCTCCGCCGTCAG
CGTGCGCGCCAGCGTACTGACGTGTTCCCATGCCTCTTCATCCAATACCTCTTCAGGCAG
ACGCTGCACCAGCAGACCGCCCGCCGCTTCGTCGCTTGCAGACAGGACGATGTGCGTATC
AAGCTGTTCGGAACGTTTCATATAGTTCACCAACATTTGCGCGATACCGCCGCCTTCCAA
AGGCACTACGCCCTGCCAGGGTTCGCCGTCTTTGGGCTGCAGCGTCAGCACGAATACGCC
GCCCTCGCCCAAAAGGTCGCCGAGGCTTTCGTCATCGGCTATTTCTGCGGTTTCGTCCCA
ACGCGCGGTTGCACGGACGGTACGGTCGGAAGCCGCTTCCGCAACCAGCATTTTCAGCCG
CCCCCGCCCCTGAACCTGCACAATCAGCGTGCCTTCGTTTTTGAGGTTGCCCGACAGCAA
CACACCCGCCGCCAACAACTCACCCAAAGCGCGGCGGATGGCGGCGGGATAGTTTTTCTG
TTTTACAATGTGCTGCCACACGTTTTCCAGACGGACGTGCAGCCCGCGCACGGGCATATC
GTCGAAGATAAAGCGGGTACGCACATCGGCGCGGTTGATGGCGGTTTGATTCATGATTTT
CTCTGACTGATTGTTCGGATGGCGGCTATATGGTTGCGGTCGGCGCGAAAACAAGACGGA
CGGCGGATGCGCTTCCCAAATTATCAATAAATTATATAAAAATCAACATATTAACTCAAT
CTAACAAGCCGTTTTTTGCCAAACAGCCGTTTTTTTATATACAATCAACAAGATATTTTC
GACTGATACAGCATAACATCGCACGGCGGCACGATGCCTCCTGCGCGGAAACACCGATAT
GGATTCTTTTTTCAAACCGGCAGTTTGGGCGGTTTTGTGGCTGATGTTTGCCGTCCGCCC
```

Appendix A   -471-

```
CGCCCTTGCCGACGAGTTGACCAACCTGCTCAGCAGCCGCGAGCAGATTCTCAGACAGTT
TGCCGAAGACGAACAGCCCGTTTTACCCATCAACCGAGCCCCGCCCGGCGGGCGGGCAA
TGCCGACGAACTCATCGGCAGCGCGATGGGCCTTAACGAACAGCCCGTTTTACCCGTCAA
CCGAGTCCCGCCCGGCGGGCGGGCAATGCCGACGAACTCATCGGCAACGCGATGGGGCT
TAACGAACAGCCCGTTTTACCCGTCAACCGAGCCCCGCCCGGCGGGCGGGCAATGCCGA
CGAACTCATCGGCAACGCGATGGGACTTTTGGGTATTGCCTACCGCTACGGCGGCACATC
GGTTTCTACCGGTTTTGACTGCAGCGGCTTCATGCAGCACATCTTCAAACGCGCCATGGG
CATCAACCTGCCGCGCACGTCGGCAGAACAGGCACGGATGGGTACGCCCGGTTGCCCGAAG
CGAATTGCAGCCCGGAGATATGGTGTTTTTCCGCACGCTCGGCGGCAGCCGCCATTTCCCA
TGTCGGACTTTATATCGGCAACAACCGCTTCATCCACGCGCCGCGCACGGGGAAAAATAT
CGAAATCACCAGCCTGAGCCACAAATATTGGAGCGGCAAATACGCGTTCGCCCGCCGGGT
CAAGAAAAACGACCCGTCCCGCTTTCTGAACTGATTTCCCAAGGAATACGCAATGAGTAT
GCCCGAAATGCCCAAATGGTACGACGATGACGGACAGATCGTGTCCTGTACCGAAAAGGT
CAAAGTGATGTCCGAAAATATGGCCGAGCTGTATCGAGACGGCACAAGACGCGTTTGAAGA
CGCGCTGCTGATGGGTTGCGGCGAACGTCAGTTGCGCGATTACCTGCTCGCGCTGATTGA
AGGTTTGGAAAATCCCTACCGCAAAGTCTGAACACGCCCCGGTTGCTGCGGCACGGTTTA
TCCGTGCCGTTTTTGCGTTTGTGCGCGGCTTCGGCTTTTCAGACGGCATATTTGACGTTA
TGATTAAACAGTTAACAAGATTTATCACAACGCCGTCAAAAGACAGACACACAACATGAA
CATCATCCGCGCGCTCCTCATCATCCTCGGCTGCCTCGCCACCGGCGAAACCGCCGTTTT
CCTAGCAGGCATCAAACTGCCCGGCAGCATCGTCGGCATGGGCGTGCTGCTGTTTGCGCTTTT
GCAGGCGGGTTGGGTCAAAACGTCTTGGCTGCAACAGCTTACCGACGCGCTGATGTCGAA
CCTGACGCTGTTCCTCGTGCCGCCCTGCGTGGCGGTCATCAGCTATTTGGATTTGATTGC
CGACGATTGGTTTTCGATACTGGTTTCCGCCTCCGCCAGCACTTTGTGCGTACTGCTGGT
TACGGGCAAAGTCCACCGGTGGATACGGGGTATTATCCGATGAACGAAATCCTCAGGCAG
CCCAGCGTTCTGCTTTTCCTCACGCTTGCCGTGTACGCGCTTGCGATTATCGTGCGCACG
CGCACGGGCAATATCTTCTGCAACCCCGTACTCGTCAGCACTATCGTGCTGATTGCCTAC
CTGAAAATCCTCGGTATCGATTATGCGGTGTACCACAACGCCGCGCAATTCATTGATTTT
TGGCTGAAACCCGCCGTCGTCGTGCTTGCCGTGCCGCTCTACCAAAACCGCCGTAAAATC
TTCAACCAGTGGCTGCCCGTCATCGTTTCACAGCTTGCGGGCAGCGTTACGGGCATTGTT
ACAGGGATGTATTTTGCCAAATGGCTGGGCGCGGAACGCGAAGTCGTCCTCTCGCTCGCG
TCCAAATCTGTTACCAACCCCATCGCTATTGAAATCACCCGCTCCATCGGCGGCATTCCC
GCCATTACCGCCGCCACCGTCATCATTGCCGGTCTGGTCGGACAGATTGCCGGTTACAAA
ATGCTGAAGAACACGGTCGTCATGCCCTCGTCCGTGGGTATGTCGCTCGGCACGGCTTCG
CACGCGATGGGGATTGCCGCCTCGCTCGAACGCAGCCGCCGTATGGCGGCATACGCGGGG
CTGGGGCTGACGTTCAACGGCTACTGACCGCGCTGATTGGCCGCTGCTCATCCCCGTT
TTGGGATTTTGAACCCGTTTCAGACGGCATTTCAGCCCATGCTGTCTGAACGCCGACACA
CTCGCAAGGAGAACCGTTATGGCTGTCAACCTGACCGAAAAAACCGCCGAACAACTGCCC
GACATCGACGGCATTGCCCTCTACACCGCCCAAGCAGGCGTGAAGAAGCCCGGGCATACC
GACCTGACACTGATTGCCGTAGCCGCCGGCAGCACCGTCGGTGCAGTCTTCACGACCAAC
CGTTTCTGTGCCGCGCCCGTCCACATCGCCAAATCGCACCTTTTTCGACGAAGACGGCGTG
CGCGCCCTCGTCATCAACACGGGCAACGCCAACGCGGGTACGGGCGCACAGGGCAGAATC
GATGCTTTGGCAGTGTGTGCCGCCGCCGCCCGGCAAATCGGCTGCAAACCGAACCAGGTG
CTGCCCTTCTCCACCGGCGTGATTCTCGAACCGCTGCCCGCAGACAAAATCATCGCCGCC
CTGCCCAAAATGCAGCCTGCCTTCTGGAACGAAGCGGCACGCGCCATCATGACCACCGAC
ACCGTGCCCAAAGCCGCCTCGCGCGAAGGCAAGGTCGGCGACAAACACACCGTCCGCGCC
ACGGGCATCGCCAAAGGCTCGGCGCATGATTCATCCCAATATGGCGACCATGCTCGGTTTC
ATCGCCACCGATGCCAAAGTTTCCCAACCCGTCCTCCAACTGATGACGCAGGAAATCGCC
GACGAAACCTTCAACACCATCACCGTTGACGGCGACACCAGCACCAACGACAGCTTCGTC
ATCATCGCCACCGGCAAAAACAGCCAAAGCGAAATCGACAACATCGCCGACCCGCGTTAC
GCCCAACTCAAAGAATTGTTGTGCAGCCTCGCGCTCGAACTCGCCCAAGCCATCGTCCGC
GACGGCGAAGGTGCGACCAAGTTCATCACCGTCCGCGTCGAAAACGCCCAAAACCCGCGAC
GAAGCCCGCCAAGCCGCCTACGCCGTGGCACGTTCGCCGCTGGTCAAAAACCGCCTTTTTC
GCCTCCGACCCCAACCTCGGCAGGCTGCTCGCCGCCATCGGTTATGCCGGCGTTGCCGAC
CTCGATACCGACCTCGTGGAAATGTATCTCGACGATATTTTGGTTGCCGAACACGGCGGA
CGCGCCGCAAGCTACACCGAAGCACAAGGGCAGGCGGTGATGTCGAAGGCCGAAATCACC
GTCCGCATCAAGCTGCATCGCGGACAAGCCGCCGCCGTCTATACCTGCGACCTGTCG
CACGGATACGTTTCCATCAACGCCGATTACCGTTCCTGACCCGACACGGCTTCAGACGGC
ATACATAAAATGCCGTCTGAACCGCCGGACAACATACCATGACCTCCACATTCCCCCGCC
GCCTCGCCCGCAAAATCCGCCAAACCCGCCGCCTGTCGCGCAAAAGCATCGCCTTTCTGT
TCCTTTTGGCAGGTTCGGCACTCGTCGCCCTGACCGCGCTGTTTTTTGCCCATCTTGCCG
ATTTTGCGCTGGAACTGAACGCCAAACTGGTTCAACAATACCCGTGGTTCGCGTGGGTCG
CGCTTCCTTTGGGTTTACCGCTTATTGCGTGGCTCACACGCAAATTCGCCCCCTTCACCG
CCGGCAGCGGCATCCCGCAGGTCATCGCCTCACTGTCGCTGCCCTACGGCGCACAGAAA
CGCGGCTGATCCGCCTCGGGCAGACGCTGCTGAAGATTCCGCTAACCTTTTTGGGTATGC
TGTTCGGCGCGTCCATCGGACGCGAAGGTCCGTCCGTGCAGGTCGGCGCGGCAGTGATGG
GCGCGTGGGGCGCGTGGTGCAAGAAAACACGGCTTGGCATTCAAAGGGATGCAGGAAAACG
ATTTGATGGCGGCGGGCGCGGCGGGCGGTTTGGCAGCCGCGTTCAACGCGCCGCTGGCGG
GCGTGATTTTCGCCATTGAGGAACTCGGGCGCGGCATCATGTTGCGCTGGGAGAGGCAAA
TTCTTTTGGGCGTGCTCGCCTCCGGTTTCATACAGGTCGCCATTCAGGGCAACAACCCGT
ATTTTTCCGGCTTCAACGGCGGCGTATTGGAACATATCTTTCTGTGGGTCGCACTGTCCG
GCCTGGTTTGCGGCGCGGCGGGGCGGGCTGTTCGGACGTTTGCTCTATCGCGGTGGGTGCGG
CGTTTGCACCGCGCAAGATACGCGGCTTCATCCGCAACCGTCCGCTGCTGTGGCGGCAC
TGATGGGGCTGCTGCTCGCCCTGCTCGGCACGTTCTACCAAGGCAAAACCTACGGCACCG
GCTACCACGAAGCCGCCCAAGCCCTGCACGGCATCTACGAAGCCCCCTTCGGACTCGCCG
CCGCCAAATGGCTCGCCACCGTATTCAGCTATTGGGCAGGCGTTCCGGGCGGCATTTTCA
```

Appendix A   -472-

```
CTCCCTCGCTGACCATAGGCGCGGTTTTGGGCGAGCATATCGCCGCCATCGCCGACATAT
CGCAGGGTGCAAACATCATCGTCCTCATCTGCATGGCGGCATTTCTGGCGGGCGCGACAC
AATCCCCGATTACTTCCGCCGTCGTCGTCATGGAAATGACGGGCGGACAAAGCCTGCTGT
TTTGGATGCTAATTGCCTGCATTTTCGCCTCGCAGGTTTCGCGCCAGTTTTCGCCGCGTC
CGTTCTACCACGCATCGGGAATGCGCTTCCGCCAGCGCGTGCTTCAAGAAACCGCCGCCC
AAACCGGCAATGCGCCCGCAAGACCGCAAACAGCAAACAGCAAAACGGGAATGCCGTCTG
AAAATTAAAACGCCCCCGATCAAACGCCGGCAGCCGCCTTGATTTGAATACCGTTCCGCC
GCCGCTTGAAATTTCAGCAACAATGCCGTCTGAACGACAGAATGCGGTTTTCAGACGGCA
TTTCCCCATCCCGATATTGCCTAAACAAAACCGAAGCGTTTGCTATAATTCTATTTTTTA
CCGCATACGCACCAATCATGTTTCCCGATTTCTCCCAAACCCTCTCCAAAGACCGCCACT
TCCTGCGTTCCGCCTTCAAAAATCCCAACAAATACGGCGGTTTGTCCAAAATCGAAGAAA
AATACCGAAAATCGCACGAAATCTTTTTGAAGCGTTTGGCAGCCTTGCCAAAACCCGAAT
TCGACAACACCCTGCCCGTTCACGAGAAGCTCGAAGAAATCAAAAAAGCCATTGCCAAGA
ATCAGGTAACGATTATTTGCGGCGAAACCGGTTCGGCGCAAAACCACGCAGTTGCCCAAGA
TTTGCTTGGAACTCGGGCGTGGGGCGGCAGGATTGATCGGGCATACCCAGCCGCGCCGTT
TGGCCGCGCGCTCCGTAGCAGAGCGGATTGCCGAAGAGCTGAAATCCGAAATCGGCAGCG
CGGTCGGCTATAAAGTACGCTTCACCGACCACACCTCGCGCGATGCCTGCGTCAAGCTGA
TGACCGACGGCATCCTGCTGGCGGAAACGCAGACCGACCGTTATCTCGCCGCCTACGACA
CGATTATCATCGACGAAGCGCACGAGCGCAGCCTGAACATCGACTTCCTTTTGGGCTATT
TGAAACAACTCCTGCCGCGCCGCCCCGATTTGAAAGTCATCATCACCTCGGCAACGATAG
ACGCAGAACGCTTCTCCCGACACTTCAACGGCGCGCCCGTTTTAGAAGTGAGCGGACGGA
CGTATCCCGTCGAAATCCTCTACCGACCGCTGACCCGCAAAGACGAAGACGACGCAGAAG
TGGAGTTGACCGACGCGATTGTCGATGCGGCGGACGAATTAGCGCGACACGGCGAAGGCG
ATATTTTGGTATTCCTGCCGGGCGAGCGCGAAATCCGCGAAACTGCCGAAGCCCTGCGCA
AATCCACGCTGCGCCGCAACGACGAAATCCTGCCCCTGTTCGCACGCCTGTCGCACGCCG
AGCAGCACAAAATCTTCCACCCCTCAGGCGCGAAACGCCGCATCGTATTGGCAACCAACG
TCGCCGAAACCTCGCTTACCGTGCCGGGCATCAAATACGTCATCGACACCGGCCTCGCGC
GTGTTAAACGCTATTCCGCACGGGCGAAAGTGGAGCAGCTTCATATCGAAAAAATCTCCC
AAGCCGCCGCCCGCCAACGATCCGGCCGCTGCGGACGCGTCTCCGCAGGCGTGTGTATCC
GACTGTTTTCAGAAGAAGATTTTAACAGCCGCCCCGAATTTACCGACCCCGAAATCGTCC
GCAGCAACCTCGCCGCCGTCATCCTGCGCCATGGCAGCATTGAAACTCGGCGATGTGGCGG
CATTCCCGTTTTTAGAAATGCCCGATTCACGGTATATCAATGACGGTTTTCAGGTGTTGT
TGGAGTTGGGGGCGGTGGAGGCCGTCTGAAAACAGGCAGACATAAAAGAAAATCCGCGTA
GAGTGATGTAAACTTACCCTTGCTTTAATAAGTAGAAAATGGTGGGTTTACGTCCCCCCC
TGCGGCTACTAAAAAAAATATAAGAGTAAACAACCTTTTTGAAAGAAAAATGTATGGACGA
AATTCAAATACCCAAAAAAGTGGAATTACAAACCAAACTAGAAAATGAAAGATTGTTTT
ATCGAAAGGTTCTACCACGATTATTGTTGGTGCTAATGGCACAGGGAAAACAAGATTAGC
TGTTTATATTGAAGAACAATTAAAGGAAAAAGCACACAGAATTTCGGCTCATAGAGCATT
AAAATTAAACCCTAATGTCAATAAAATACCAGAAAAGAGTGCCAAAACATATCTATCTTA
TGGTCAGAACTGGGATGGAATCGATGTATCAAATAGAAAAAATTATAGATGGGATAATAA
CTCATATACTCATTTACTCAACGATTTTGATTGGTTATTACAATATTTATTCGCTCAACA
AAATAATATTGCGGTAGCAAATAATCAAAAGCTCAACCGTAATGAAAAAGTAACCAATTC
AAAAACAAAGCTAGATATTTTGCAAGAAGCATGGGAAACATTATTACCACACAGAAAATT
ACATATTACAGCAGATGATATTCAAGTCTCTGCTGTAGATAATGAGGAATTGTATTCTGC
CTCAAATATGAGTGATGGAGAGCGAGCACTTTTCTATATTCTTGGACAAGTTTTGTCAGT
AGATGACGGTTCTGTCTTAATTTTTGATGAGCCTGAATTACATATTCATAAATCAATTAT
TTCAAATCTATGGGATAAAATTGAAGAATTACGACCTGATTGTTCATTTCTAATCATTAC
ACACGATATTGAATTTGCTGCAACTCGAGTAGCTAAAAAATATGTTATCAGAAATTATTA
TCCGACCCCTGCTTGGGATATTTCTGAAGTTCCTGAAAGTAATTTTGATGAAGAAACAAT
AACGATGATTTTAGGTAGCCGTAAGCCAATATTATTTGTTGAGGGCAACAATAATAGTTT
AGATATTGCTACTTACCGCTATTGTTATCCTGATTGGACCATCATACCCAAAGGGGCATG
CAAAGATGTCATTCAATCAGTATCATCGCTGAAAAAAATTAAGTAATGAAATGCCATTACT
AAACTTAAAATGTTCAGGTATTGTCGATTTAGATAGTAGGGATGAAAGAGAAATTGAACA
ATTAAATAATTTGGGTATTTACATTTTACCTGTATCCGAAATTGAAAATCTTTTTAGCTT
AACTGATGTAGCAAAAGAGATATTGAAACTAAATCAATATTCAGATGAAGAATTACTCAA
TAAACTTAATGGATTTAAATCCGAACTAATTAAATATATAGATAATGAATTAAAAGACGA
TAAATTAGACGAATTTGTTGTAAAACAGGTTCGACGTAAAATTGATAATTATTTAAAAAAA
TATTGATTTATCCTCCAAAATAACAAGTACTGATATGAAAAAATCATTACTTAATGAAAT
TTCTACTTTAACAGAACAGAAAATTGAAACATGGATTTCAGAAATTAAAAATGAAATTCA
AAGATGTATTGAACAGCAAGATTTGGATAAATTACTTACTATATATGATAATAAAGGACT
CTTGGCTAAATCAGCTTGTGTTTAAAAGGAATGCGTAACAAACATGAATTTGAAAGCTG
GATAATGAGAACATTAAAAGGAAGGAATAAAGATTTTATTGATGCAATCAGACAGAAACT
TCCAATTCTGGATTAAATAAAACCATCTGAAAATTTACCTTCAGATACAGATATATTTCA
TGAAAAATCATCAAACTACACTCTCTTTCCCTACTTCGAGTAGCCTGAAACCTTGCGCAG
ACAAACAAGGCCTGTCTGAAGACCGCAGCCAATACCGCCTGACCAAACTCGGCGAACAAA
TGGCGCACCTGCCATCGACCCGAAAATTGCGCGTATTTTGTTAGTATTATTCCGTTTTT
AAAAATGCCCGATTCGCGGTATATCAATGACGGTTTTCAGGTATTGCTGGAATTGGGGGC
GGTGGAGGCCGTCTGAAAATAAAATCTTTCTTTATAAAAAGGCAGGCCATGTTTCATTTT
CAGACGGCCTAAATCATTGAGAAACTAAAAACTATTAAAAAGGGAATATTGGGTTTTAAA
ACTCAATCGGTAAATTTTTATTGTGAAATATTAATGATGAAAAAATCTTTCCTTACGCTT
GTTCTGTATTCGTCTTTACTTACCGCCAGCGAAATTGCCTATCGCTTTGTATTTGGGATT
GAAACCTTACCGGCGGCAAAAATTGCGGAAACGTTTGCGCTGACATTTGTGATTGCTGCG
CTGTATCTGTTTGCGCCGGTTATAAGGTGACGCGTTTGTTGATTGCGGTGTTTTTTGCGTTC
AGCATTATTGCCAACAATGTGCATTACGCGGTTTATCAAAGCTGGATGACGGGCATCAAT
TATTGGCTGATGCTGAAAGAGGTTACCGAAGTCGGCAGCGCGGGTGCGTCGATGTTGGAT
```

Appendix A   -473-

```
AAGTTGTGGCTGCCTGTGTTGTGGGGCGTGTTGGAAGTCATGTTGTTTTGCAGCCTTGCC
AAGTTCCGCCGTAAGACGCATTTTTCTGCCGATATACTGTTTGCCTTCCTAATGCTGATG
ATTTTCGTGCGTTCGTTCGACACGAAACAAGAGCACGGTATTTCGCCCAAACCGACATAC
AGCCGCATCAAAGCCAATTATTTCAGCTTCGGTTATTTTGTCGGACGCGTGTTGCCGTAT
CAGTTGTTTGATTTAAGCAGGATTCCCGCCTTTAAGCAGCCTGCTCCAAGCAAAATCGGG
CAGGGCAGTGTTCAAAATATCGTCCTGATTATGGGCGAAAGCGAAAGCGCGGCGCATTTG
AAGCTGTTTGGCTACGGACGCGAAACTTCGCCGTTTTTAACCCGGCTGTCGCAAGCCGAT
TTTAAGCCGATTGTGAAACAAAGTTATTCCGCAGGCTTTATGACTGCAGTGTCCCTGCCC
AGTTTTTTCAATGCGATACCGCACGCCAACGGCTTGGAACAAATCAGCGGCGGCGATACC
AATATGTTCCGCCTCGCCAAAGAGCAGGGCTATGAAACGTATTTTTACAGCGCGCAGGCG
GAAAACGAGATGGCCGATTTTGAACTTAATCGGTAAGAAATGGATAGACCATCTGATTCAG
CCGACGCAACTTGGCTACGGCAACGGCCACAATATGCCCGATGAGAAGCTGCTGCCGTTG
TTCGACAAAATCAATTTGCAGCAGGGCAAGCATTTTATCGTGTTGCACCAACGCGGTTCG
CACGCCCCATACGGCGCATTGTTGCAGCCTCAAGATAAAGTATTCGGCGAAGCCGATATT
GTGGATAAGTACGACAACACCATCCACAAAACCGACCAAATGATTCAAACCGTATTCGAG
CAGCTGCAAAAGCAGCCTGACGGCAACTGGCTGTTTGCCTATACCTCCGATCATGGCCAG
TATGTTCGCCAAGATATCTACAATCAAGGCACGGTGCAGCCCGACAGCTATCTCGTGCCG
CTAGTGTTGTACAGCCCGGATAAGGCCGTGCAACAGGCTGCCAACCAGGCTTTTGCGCCT
TGCGAGATTGCCTTCCATCAGCAGCTTTCAACGTTCCTGATTCACACGTTGGGCTACGAT
ATGCCGGTTTCAGGTTGTCGCGAAGGCTCGGTAACGGGCAACCTGATTACGGGTGATGCA
GGCAGCTTGAACATTCGCGACGGCAAGGCGGAATATGTTTATCCGCAATGAGTGGCGTAA
AAAACCAATAAAGACAAATTTAGATGATGTCGGGGAAGATGCCCGACCGACAAGACTATGC
AAAAATATGAAAAACCAAGTACGCGGATCAGGCATGGATGCCCGATCCAATCCGGCCAATG
TTTCAGACGGCCTGCAAAACAGTTCGGGTCATATCGGTACCAACACGCGTTACCGCCTGA
CCAAACTCGGCGAACAGATAGCGCGCCTACCCATCGACCCGAAAATCGCGCGCATTTTGC
TGGCGGCGAAGAAACACGACTGCATGGCGGAAATATTGGTGATTGCGTCCGCGCTGTCGA
TTCAAGACCCGCGCGAGCGGCCGCTAGAAGCGCGCGATGCCTCAGCCAAGGCGCACGAGC
GTTTTTACCGACAAGCAGTCCGATTTCCTTGCCTATCTGAACATTTGGGACAGCTTCCAGC
GCGAACGCGATAAAGGCTTGTCCAACAAGCAGCTGGTGCAGTGGTGCCGCCAATATTTCC
TGTCGCACCTGCGGATGCGCGAGTGGCGCGAGCTGCACCACCAGCTTGCCCAAACCGCGA
TTGAAATGGGTTTAACCACCAAGGAAGCCGCTTTCAGACGACCTCCCGAAGTCAGGCAGC
TCACGTCGTCTGAAAATGCGGGTGACCAAGACCTATCTGCTAAACTCAAACAAAAACAAC
TGGATAAAAAGCAACACCGCGCCCAAATCCGCGCCGCCAAAGAAGCGGGCTACGAACAAA
TCCACCGCGCCCTGCTCACTGGCCTTATCGCCAACGTCGGCATGAAATCGCCCGACGGTA
ACGACTACACCGGCGCGCGCGGCAGCCGCTTCCACCTTTTCCCCGCCTCCGCCCTGTTCA
AAGCCAAACCCAAATGGGTGATGGCGGCAGAATTGGTTGAAACCACGCGCCTTTACGCGC
GCGACGTCGCCGTTATCCAGCCCGAATGGATAGAGCAGGAAGCGCCGCACCTCGTCCGCT
ATCATTATTTCGAGCCGCATTGGGAACAAAAACGCGGCGAAGTCGTCGCCAGCGAACGCG
TGACGCTTTACGGTCTGACCGTATTGCCGCGCCGCCCCGTGTCTTACGGCAAAGTTGCCC
CCGAAGAAGCGCGCGAAATCTTTATCCGCAGCGCGTTGGTGGCGCAGGAATGCGATTTGA
AAGCGGATTTTTTTGTCCACAACAAAAAGCTGATTAAAGAAATTACCGAACTCGAACACA
AATCGCGCAAGCAAGACGTGCTGGTCGATGACGAAGCCCTGTTTGCGTTTTATAACGAAC
GACTGCCCGAAATGGCTTGGAAAGACGCGCAAGGCAGCGTTTGGGGAAGTGAAGATTCCG
TACGGATTATTGAATCTGACAAAGCCGAGAGGTCGTCTGAAAATGAGCGCAACGAGTTTC
GTAAAAACAAGCCGTAATGGGTCTCGCCAAAATGAAAATCACGGCAACACCGTAGGTTGGG
TTGAAAACCCAACATCAGCCGCAACTGCAAAAACTGTTGGGTTTGACAATCCAACCTACG
CTGCCCAACAAACCACCCCCTCCCCCGTGGGGGAGGGTCGGGGAGAGGGCAAAACAGTTG
CCGCACAAACCAACTTTTCCGCAACCGCAGCAAACCCTCTCCCTAACCCTCTCCCGCAGG
AGAGGGAACAGAGTGCCGCAGCTTCAACGATTTCAGACGACCTGCGTCCTGCAAATCTGC
AGCAAACCGCCCCCTCCCCCGTGGGGGAGGGCTGGGGAGAGGGCAAAACAGTTGCCACAC
AAACCAACTTTTCCGCAACCTCAACAAACCCTCTCCCGCAGGAGAGGGAACAGAGTGCCT
CAGCTTCAACGTTTTCAGACGACCTGCGTCCTGCAAATCTGCAGCAACCCTCTCCCTCCC
CCGTGGGGGAGGGCTGGGGAGAGGGCAAAACAGTTGCCCACACAAACCAACTTTTCCGCAA
CCTCAACACTTTCAGACGACTCCAAACCCAAAAAGCAGCCTGCACCCCAAAAAAACCGTC
TGAAACCCCTACCCCTCGCCGACATCCGCACCTTCCAAGCCTGGCTCAAAACCGCCGAGC
GCGACAATCCGCGCCTGCTGTTCCTCAGCCGCGACGATCTGATGCAACACGCCGCCGCAC
ACATTACCGAAGAACAGTTCCCCAAATTCTGGCAAACCGCAGACGGCAAATTCAAACTTT
CCTACCGCTTCGAGCCGCACCATCCGCTAGACGGCGTGACCATGACCGTGCCGCTGACCG
TCCTCAACCGCCTGCACGCGCCGTCGCTCGAATGGCTGGTGCCCGGCATGATACGCGAAA
AAATCCAGTTGCAAATCAAAGCACTGCCCAAGCAAATCCGCCGCATCTGCGTGCCCGTGC
CCGAATTCATCACCCAATTTTTAAGCCAAAACCCCGACCGCAACGCCCCCATCCTGCCCC
AACTCGCCCAAGCCATCGCCAAAACCGCAGGCGACATCCGCATATTCGAGCAAATCAACC
AAGACGAATGGGCCGCGTTCAGGCTGCCCGAACACTGCTATTTCAACCTCCGCATTATCG
ACGACGGCGGACAAGAGCTTGCCGGCGGCCGCAAACTGCACGAATTGCAACAACAACTCG
GTCAAGCTGCCGCCGTTACCTTCCGTGACAACACCCAAGAATTTGAGCGCGACAACGTCA
CCGCATGGGACATCGGCACCCTGCCCGAATCCATCAAATTCGCACGCGGCAAACAACAGC
TCACCGGCTATCTCGGCCTACAAAAAGAAAAAGACGGCCGCATCGCCCTGCGCCTGTTTG
ATACCACAGAAGCCGCAGAGCAGGCACACCGTCAAGGTGTCATCGAATTGATGAAGCTGC
AATTAAAAGAGCAGGTAAAGGATTTGAACAAAGGCATCCAAGGCTTCACCCAAGCTGCCA
TGCTGCTCAAACACATCAACGCCGACACTCTGCGCGACGACCTCACCCAAGCCGTCTGCG
ACCGCGCCTTTATCGGCGAAGACGAGCTGCCGCGCAACGAAAAAGCCTTCAAAGAACAAA
TCAAACGCGCCCGCCAGCGCCTGCCCGCCGTCAAAGAAGCCCTCAGCCGCTACCTGCAGG
AAACCGCCGCCGTCTACGCCGAACTCAACAGCAAACTCGGCAAACACCCATTGACCCACC
TTCTAAGACTACGCCTGCAAACCCTGCTCGCCGCCGGCTTCGCCACCCGAACCCCGTGGG
CACAATGGCCGCGCCTCCCCATCTACCTCAAAGCCATGACCCTGCGCCTCGAAAAATACA
```

Appendix A   -474-

```
GCAGCAACCCCGCCCGCGACGCAGCCCGCGAAGCCGATATCCAAGAGCTGGAACAAATGT
GGCAGGAAAAAACAGACAGCCTGATTAAACAAGGTCTCCCCATTTCAGACGGCCTCGCCG
CGTTTAAATGGATGATTGAAGAATTGAGGGTGTCGCTGTTCGCGCAGGAATTGAAGACAC
CGTATCCGGTGTCGGTGAAGCGGCTGTTGAAAGAGTGGGAAAAAATTGAAAAATAAAAAA
ACAGCCTGAAAAGTTTCAGGCTGTTTTTTTTATTTGACTAATCGAAGTTTCCTATATCTAT
TTAAGTCCCTCTCAACTAATCCAAAAGTTAAATCAGCAACATCTTTGGGGGATACGTTTA
AATTTTCAGCAATCTGTTCAATACCAATGCCATCATTTTTTAAAATAGTAAGCATTTTAC
GTAATGCGCTTGATATTTCCCTTTCCATTGGCTCTGGTTCGATAGTTCGATATTTTTTCT
TTGCAAACAAAGGACAAAGATTGTGTATATACATCCTATCAGTAATCATTCCTAATTTAT
GCATCCGATATGCTAAGGCAACAAGTGATACACCAAATCGTCTTTTGATTTTTAATAAAT
TTTCAATAGTGATAGGAACATGACGATATAAGCGTAGTGCAGCCTCCGGCATTAAAAAAG
CTGAAGCAAAGGCATTAGCCTCTTTTTCGATAATATCACGAGGTTCATCTTCTGTAATTT
CACTATTTTTACTATGTTCCATACTGTATTTATCACGGATTAAGTGCCCTAATTCATGGG
CAGCATCAAATCGACTACGTTCTGCAGATTTTTGTGTATTTAAAAATACAAATGGATGAT
TTTCATACCAAGTACAAAAGGCATCAATGTCCTTTGTATCTAAAGATAATGAAAATACAC
GAACACCCTTAACTTCAAGTAGGGTGATCATATTCGGAATAGGTTCATTGCCCAAGCCCCC
ATTCTAATCTTAGTTCCTGAGCAGCCTCTTCAGGAGAAATATCAGAAAAATCAGGCAATA
CGGCTTGACTTAGTGTAAATTCTGTCTCGAGCCAGTCATTTAACAAAAAAGCCGTAATGC
TATGATTTAATGCTTGTTTTTCAAGCCTCTTCGAGGTGCGTGAACGAGCACGAAAACTTA
CTGCCTGAGATTTCAACTCAGGCAGTCTTTCGTCATTAGTAAAGAAATGAACTGGAAACT
CTAATAAATTGGCTAATTCATTTAAATCAGGTATTTGCTCATCTTTTACATAGTTTCTAA
CCTGTCGAGCGGTAATACCTAATAACTCAGCTAATTTTGTTTGCGTACAACCACGTTTAT
CCAGCGCAAATTCCAGTCTCTCACGATTAAATGTCTGCATGATTTATCATTCAAATTATC
CTGCTTTTTGTTTTCTTTCAACCAAAGGCTCATATTCTTCAACAGGTTGCTTACGTTCAA
GCTCATCAAATTTAGTTAAATCAACATCAGCTAATATAATTCGCTGCTTGTACCCAGTTA
TTTGATGACTAACAAAACCACTCGGTAAAGATAATTCAAGTTGCACTTTATTTATACTTCC
AGTGAAACAGCAGAACCCAAAACTGCACAGTATCAGGCAAATCTAGTTTTGAATTACGAA
TAGCCTCCTCAAATCCCTTACCTTTCCTTGCGGTTGTCATTGGCATCCCGTGATGCCTAC
CAACATCTGAAGTAGCAGTAGCCACAATAATACTTTTAGTTCGACATGGCGAGAGACATA
GAAATGCACCACCCGACCAAGGCTCAAGCGTCCAGCCATCTTTACTTAAATATACCCTTA
GAGCAAATGTAATTTCTGCTTGCCGATACATCCCCAATGTATTTCTGTCAGATAATGCTG
CTTTGTCCTGAATATTATTATGCGCAGTAAGTACAATCTCTTTAAGCATCTCCTGAGATA
AGTACTTGCTGATTTCACTTAAAGCAATATCACTATTTTGTTGCTCGACTATTTCTCCTA
CTTCAAATGGGAAAGGTTCTGATAATGCAAATTCCACCATAAAAAATTTCCTAATTTTATA
CGTAATGTTTACACAATATATCAGGAAATATGAAAACGTACAACTATATCTATAAAGCAA
TTAATAAGTAGCCTGCCCAACCGTGTCCTTATCTTTCGGCACACCCGACCTGCAAATCAC
GCAAAACTTGGAATCCGTGTGTAGGGTGTGTGCGGTACATACGCACGCAGTCTTTTTAAA
CCACAGCCCTTCCCAACTAAACCAAAAGGTCGTCTGAACCCTATTTTCAGACGACCTTTT
GCCACTTTGTAAAACAAATCTTCCCACCATCCTCTCCCCAAACATCGCCCGAACCAGTAA
ACTTCTCATATTTCAACAACTCCTTGGAAGCAAACCATGTCTGGTATCTACCTACCCCGC
CTATTCCCGCCCCATATCGCCGAACGCGGCCTGTTGTATTTTCAGCAGGGCAAGGTTCTC
GATGTCCGAAAAACTTCCGCCGGGCATTATCGGGCGGAGGTGTGCGGTTCGGAAAACTAT
TGGGTATAGTTGAAGCTGGATAGTGATTTGTATATTAAAGACGAAGGCTGCAATTGTCCT
TATATCTAAGAGTGCAAACATACCTTAAATTACTATATTGCATAGGCAAAATACAAGCCT
ATAACGAATTGGAAACAAAATGCCGTCTGAAAACATCTTCAGACGGCATTATAAAATCTG
TTCACCTTTTCAGATGAGTAATGTACACCCTTATACAATTTTTGCTACTATGCCCCATAA
ATCCACGGCTAAAGATATCCTTATTATGTCCTATGATTTATCGAAACGACTTGTAATCGG
CTTAGCATCAAGTGCCCTATTCGACTTATCCGAATCGGATAATATATTTAGAATGGAAGG
GGCAGAAACCTATAGGCAATATCAGAGAGAAAAACAAAACCATCCCCTAAAAAAGGCGTT
GTCTTTCCATTTATTAAAAAACTTCTGTCAATCAATGAAATAAACCCAAACGACCCAACG
ATTGGGTTTATTCTTTTATCCAGAAACAATCCAGATACAGATTACGAGTCATAACTATAG
GCTTAATATTACACGATTCTCATTCCATCAAGGCGGAAAACCGCACAAATACTGAAACAC
TATCGATCGATTTGTAAACAAGCCTACTTAAGTAACTTGCAGTCCTTATCATTTCCTTTA
AAATAATCCAGCCCGTCACTACACGAACTGGCGGACTTCTTGCAAATAAAGGTTACTAGA
TTTTCATTCATCTTAATAATAAAAGGATTTTTATCTTTATCTATGGCTACCGCCTTCAAC
ATGAATTTACTGTCTAAAGCCCCGCGCGCAGTCCATTCAAACGGATACAAAAGCCTTCT
GCCTCTTTAATCGGCAAACTTGGCCACTTGGTAGATGTTTGTTTAAACCTCCCATTCTGC
AGATAAAACTTTTCCATAAAATGTGCATTTTCTAACAAGGCTGCCCGCACTGCATTTATC
TTTGCTTTCTCAACATAATTGCGATAGCTCGGATAAACAATTAAAGCAAGTACAGACAAT
ATCAAGACCACTGATATTAATTCAACCAGCGTAAACCCCCGATTATCAGTCATTACTTTA
CTTCCAATAAGAACAGATTATTCAACATATTTCTTTGAACGGATTACTATCCCATTCAA
CAGTATGCATATTTCCCACTCTATTTTTTAGCGGCCGGTATAGCCGGTTTGGCTGGGCCT
TTTGGTGCGGGCGCGCCGACCGAAGCCTGGTCCTTCAGCTTCGCCAGCACCGCAGGGCCG
ATGCCCTTTACCTTGGTCAAATCGTCTACAGACTTGAACGCACCGTTTTGCGCACGGTAT
TCCGCAATGGCCTTCGCCTTCGCCGGGCCTATGCCCGGCAGCGCCTCCAACTCCTGCTGC
GAAGCCGCATTGATGTTTACCGCCGCAAGGGAGAAGGCGCAGGAGAACAGCATACAGAAC
AGCACGAACATTTTCTTCATGGTTTTTCCTTTAAGGGGTTGCAAACAATAAACCGCATCTT
GCGACGATAAAACGAGTCATTCTAAAATGAATATCCCAAAGTTTCAAGCCGTTCCTCCGC
AAACCCGACCGGACACCGTACGGATGCCGTCCCGCCATCACCGACATTTTTTCCGGGCAA
AGCAAACATTTTTTCCGGGCAAAGCAAAAACCCCCGAATAATCGGGGGTTTTCTGAATGG
GTGTTTGGCAGTGACCTACTTTCGCATGGAAGAACCACACTATCATCGGCGCGCTGAGTCGT
TTCACGGTCCTGTTCGGGATGGGAAGGCGTGGGACCAACTCGCTATGGCCGCCAAACTTA
AACTGTTACAAATCGGTAAAGCCTTAATCAATATATTCGGTAATGACTGAATCAGTCAGT
AAGCTTTTATCTCTTGAAGTTCTTCAAATGATAGAGTCAAGCCTCACGAGCAATTAGTAT
GGGTTAGCTTCACGCGTTACCGCGCTTCCACACCCCACCTATCAACGTCCTGGTCTCGAA
```

Appendix A   -475-

```
CGACTCTTTAGTGCGGTTAAACCGCAAGGGAAGTCTCATCTTCAGGCGAGTTTCGCGCTT
AGATGCTTTCAGCGCTTATCTCTTCCGAACTTAGCTACCCGGCTATGCAACTGGCGTTAC
AACCGGTACACCAGAGGTTCGTCCACTCCGGTCCTCTCGTACTAGGAGCAGCCCCCGTCA
AACTTCCAACGCCCACTGCAGATAGGGACCAAACTGTCTCACGACGTTTTAAACCCAGCT
CACGTACCACTTTAAATGGCGAACAGCCATACCCTTGGGACCGACTACAGCCCCAGGATG
TGATGAGCCGACATCGAGGTGCCAAACTCCGCCGTCGATATGAACTCTTGGGCGGAATCA
GCCTGTTATCCCCGGAGTACCTTTTATCCGTTGAGCGATGGCCCTTCCATACAGAACCAC
CGGATCACTATGTCCTGCTTTCGCACCTGCTCGACTTGTCGGTCTCGCAGTTAAGCTACC
TTTTGCCATTGCACTATCAGTCCGATTTCCGACCGGACCTAGGTAACCTTCGAACTCCTC
CGTTACGCTTTGGGAGGAGACCGCCCCAGTCAAACTGCCTACCATGCACGGTCCCCGACC
CGGATGACGGGTCTGGGTTAGAACCTCAAAGACACCAGGGTGGTATTTCAAGGACGGCTC
CACAGAGACTGGCGTCTCTGCTTCTAAGCCTCCCACCTATCCTACACAAGTGACTTCAAA
GTCCAATGCAAAGCTACAGTAAAGGTTCACGGGGTCTTTCCGTCTAGCAGCGGGTAGATT
GCATCTTCACAACCACTTCAACTTCGCTGAGTCTCAGGAGGAGACAGTGTGGCCATCGTT
ACGCCATTCGTGCGGGTCGGAACTTACCCGACAAGGAATTTCGCTACCTTAGGACCGTTA
TAGTTACGGCCGCCGTTTACTGGGGCTTCGATCCGATGCTCTCACATCTTCAATTAACCT
TCCAGCACCGGGCAGGCGTCACACCCTATACGTCCACTTTCGTGTTAGCAGAGTGCTGTG
TTTTTAATAAACAGTCGCAGCCACCTATTCTCTGCGACCCTCCGGGGCTTACGGAGCAAG
TCCTTAACCTTAGAGGGCATACCTTCTCCCGAAGTTACGGTATCAATTTGCCGAGTTCCT
TCTCCTGAGTTCTCTCAAGCGCCTTAGAATTCTCATCCTGCCCACCTGTGTCGGTTTGCG
GTACGGTTCGATTCAAACTGAAGCTTAGTGGCTTTTCCTGGAAGCGTGGTATCGGTTGCT
TCGTGTCCGTAGACACTCGTCGTCACTTCTCGGTGTTAAGAAGACCCGGATTTGCCTAAG
TCTTCCACCTACCGGCTTAAACAAGCTATTCCAACAGCTTGCCAACCTAACCTTCTCCGT
CCCCACATCGCATTTGAATCAAGTACAGGAATATTAACCTGTTTCCCATCGACTACGCAT
TTCTGCCTCGCCTTAGGGGCCGACTCACCCTACGCCGATGAACGTTGCGCAGGAAACCTT
GGGCTTTCGGCGAGCGGGCTTTTCACCCGCTTTATCGCTACTCATGTCAACATTCGCACT
TCTGATACCTCCAGCACACTTTACAATGCACCTTCATCAGCCTACGAACGCTCCCCTAC
CATGCCGGTAAACCGGCATCCGCAGCTTCGGTTATAGATTTGAGCCCCGTTACATCTTCC
GCGCAGGACGACTCGACCAGTGAGCTATTACGCTTTCTTTAAATGATGGCTGCTTCTAAG
CCAACATCCTGGCTGTCTGGGCCTTCCCACTTCGTTTACCACTTAATCTATCATTTGGGA
CCTTAGCTGGCGGTCTGGGTTGTTTCCCTCTTGACAACGGACGTTAGCACCCGCTGTCTG
TCTCCCGAGGAACCACTTGATGGTATTCTTAGTTTGCCATGGGTTGGTAAGTTGCAATAA
CCCCCTAGCCATAACAGTGCTTTACCCCCATCAGTGTCTTGCTCGAGGCACTACCTAAAT
AGTTTTCGGGGAGAACCAGCTATCTCCGAGTTTGTTTAGCCTTTCACCCCTATCCACAGC
TCATCCCCGCATTTTGCAACATGCGTGGGTTCGGTCCTCCAGTACCTGTTACGGCCACCTT
CAACCTGGCCATGGATAGATCACTCGGTTTCGGGTCTACACCCAGCAACTCATCGCCCTA
TTAAGACTCGGTTTCCCTACGCCTCCCCTATTCGGTTAAGCTCGCTACTGAATGTAAGTC
GTTGACCCATTATACAAAAGGTACGCAGTCACACCACTAGGGCGCTCCCACTGTTTGTAT
GCATCAGGTTTCAGGTTCTGTTTCACTCCCCTCCCGGGGTTCTTTTCGCCTTTCCCTCAC
GGTACTGGTTCACTATCGGTCGATGATGAGTATTTAGCCTTGGAGGATGGTCCCCCCATA
TTCAGACAGGATTTCACGTGCCCCGCCCTACTTTTCGTACGCTTAGTACCGCTGTTGAGA
TTTCGAATACGGGACTGTCACCCACTATGGTCAAGCTTCCCAGCTTGTTCTTCTATCTCG
ACAGTTATTACGTACAGGCTCCTCCGCGTTCGCTCGCCACTACTTGCGGAATCTCGGTTG
ATTTCTTTTCCTCCGGGTACTTAGATGGTTCAGTTCTCCGGGTTCGCTTCTCTAAGTCTA
TGTATTCAACTTAGGATACTGCACAGAATGCAGTGGGTTCCCCATTCGGACATCGCGGG
ATCATTGCTTTATTGCCAGCTCCCCCGCGCTTTTCGCAGGCTTACACGTCCTTCGTCGCC
TATCATCGCCAAGGCATCCACCTGATGCACTTATTCACTTGACTCTATCATTTCAAGAAC
TTCTTTGACTTTGCCTAACATTCCGTTGACTAGAACATCAGACTTGAATTTCCTACTTTG
ATAAAGCTTACTGCTTTGTTGTGTCTTAATCCTGCCTTTTGTGTTTCAGGATTAAGTCGA
TACAATCATCACCCAAATACTGTGTTTGTTTTCTTTTCTCTTGCGAGAGATTTTTATCCT
TTGCAAAGAATAAAAAATCAAAACAAACGCTTTGTCTTTGTTTGTTGATTTCGGCTTTCC
AATTTGTTAAAGATCGATGCGTTCGATATTGCTATCTACTGTGCAAATCAAAACGAGCTG
ATTATTATATCAGCATTTTGTTCTTGGTCAAGTGTGACGTCGCCCTGAATGGATTCTGTT
CCATTCTTCCGTTTTGATTTGTACAGTATTGGTGGAGGCAAACGGGATCGAACCGATGAC
CCCCTGCTTGCAAAGCAGGTGCTCTACCAACTGAGCTATGCCCCCGTTCTTGGTGGGTCT
GGGAGGACTTGAACCTCCGACCCCACGCTTATCAAGCGTGTGCTTAACCAGCTGAGCTA
CAAACCCGGATTCTCTTCTTAAGCGAATCTTGCCTTCACTCAAGCTTCTTCCGCATCTTT
TTCAGTTTACCGATAAGTGTGAATGCCTAAAGCCTCTTCTTTCTCTAGAAAGGAGGTGAT
CCAGCCGCAGGTTCCCCTACGGCTACCTTGTTACGACTTCACCCCAGTCATGAAGCATAC
CGTGGTAAGCGGACTCCTTGTGGTTATCCTACCTACTTCTGGTATCCCCCACTCCCATGG
TGTGACGGGCGGTGTGTACAAGACCCGGGAACGTATTCACCGCAGTATGCTGACCTGCGA
TTACTAGCGATTCCGACTTCATGCACTCGAGTTGCAGAGTGCAATCCGGACTACGATCGG
TTTTGTGAGATTGGCTCCGCCTCGCGGCTTGGCTACCCTCTGTACCGACCATTGTATGAC
GTGTGAAGCCCTGGTCATAAGGGCCATGAGGACTTGACGTCATCCCCACCTTCCTCCGGC
TTGTCACCGGCAGTCTCATTAGAGTGCCCAACTGAATGATGGCAACTAATGACAAGGGTT
GCGCTCGTTGCGGGACTTAACCCAACATCTCACGACACGAGCTGACGACAGCCATGCAGC
ACCTGTGTTACGGCTCCCGAAGGCACTCCTCCGTCTCCGGAGGATTCCGTACATGTCAAG
ACCAGGTAAGGTTCTTCGCGTTGCATCGAATTAATCCACATCATCCACCGCTTGTGCGGG
TCCCCGTCAATTCCTTTGAGTTTTAATCTTGCGACCGTACTCCCCAGGCGGTCAATTTCA
CGCGTTAGCTACGCTACCAAGCAATCAGGTTGCCCAACAGCTAATTGACATCGTTTAGGG
CGTGGACTACCAGGGTATCTAATCCTGTTTGCTACCCACGCTTTCGGGCATGGACGTCAG
TGTTGTCCCAGGAGGCTGCCTTCGCCATCGGTATTCCTCCACATCTCTACGCATTTCACT
GCTACACGTGGAATTCTACCTCCCTCTGACACACTCGAGTCACCCAGTTCAGAACGCAGT
TCCCGGGTTGAGCCCGGGGATTTCACATCCTGCTTAAGTAACCGTCTGCGCCCGCTTTAC
GCCCAGTAATTCCGATTAACGCTCGCACCCTACGTATTACCGCGGCTGCTGGCACGTAGT
```

Appendix A   -476-

```
TAGCCGGTGCTTATTCTTCAGGTACCGTCATCAGCCGCTGATATTAGCAACAGCCTTTTC
TTCCCTGACAAAAGTCCTTTACAACCCGAAGGCCTTCTTCAGACACGCGGCATGGCTGGA
TCAGGCTTGCGCCCATTGTCCAAAATTCCCCACTGCTGCCTCCCGTAGGAGTCTGGGCCG
TGTCTCAGTCCCAGTGTGGCGGATCATCCTCTCAGACCCGCTACTGATCGTCGCCTTGGT
AGGCCTTTACCCCACCAACTAGCTAATCAGATATCGGCCGCTCGAATAGCGCAAGGCCCG
AAGGTCCCCTGCTTTCTCTCTCAAGACGTATGCGGTATTAGCTGATCTTTCGATCAGTTA
TCCCCCACTACTCGGTACGTTCCGATATGTTACTCACCCGTTCGCCACTCGCCACCCGAG
AAGCAAGCTTCTCTGTGCTGCCGTCCGACTTGCATGTGTAAAGCATGCCGCCAGCGTTCA
ATCTGAGCCAGGATCAAACTCTTATGTTCAATCTCTAACTTTTTAACTTCTGGTCTGCTT
CAAAGAAACCAACAGGACAATGTTCAAAACATTATCTTGTCTGTCTTTCAAACAGTGTGA
GACTCAAGGCACTCACACTTATCGGTAATCTGTTTTGTTAAAGAGCGTTGCGAATTATAA
AGTATTCCTTCCGCCTGTCAAGATATCTCTCGATATCCCCAACATTCTGTGCTATACTTT
TCAGTTCGTCCGCCACTTCTGCAGCAGCGAAGAACCGAACTATACGCCCACAGGGAAAAA
CGGTCAATGCTTTTCTGAAGAAATTTTTTTAAAAATATTTATCTATTTGTTTATAAATTT
AATTTATATCAGTCAATTTTATTTTCCATACAGAATTCTTCCAGTGCCCGATGGATATTT
TCAGTCTGCCATTCGTTTTTTAAGGGTGCAACAATTTCGATTTGTCGGTTTTGGTAGTCA
AATTGTATTTTCCATGCATACAGAAACATGGTTTCGGATTCTGTTCCGCCGTATAAGCTG
TCGCCCAGAATCGGACTGCCCAAACTTTTCATCGCCACTCTCAATTGGTGCGTTTTGCCC
GTATGCGGTTCTAGGATGAACAGCCGCAGTTTTTCGGCGATACTGATGCTGTGGAATCGG
GTAACGGCGATATTTTCTGTATTGCGCGTCAACTTTCCACATTCCACATCTGGATTTTTCC
ATTCCGCCTTTAATCCAACCCTGCTTTTTGGACGGCTTGCGGTCGGACAGTGCCAAATAG
GTTTTTTTGATGCTTTTGCCGGCAAACTGTCCGCTAAGGGCGGACGCGCTTTCTTTGTTG
AGGGCAAACAGTAAAATGCCGCTGGTCTGTTTGTCCAATCGGTGCAGCAGCCACACACGC
TCTACGCCCAACTGTATGGCGAGTGTTCGGGCCAGTCCGGTCTCGCCGCTGTCTTGGTGG
ACGGATATGCCGCCCGGTTTGTTGATGGCGACGAAGTCTTGATGGCGGAACAAAATTTCC
AACATATCCATATATGCCTTGCAAAAATAGAAGGGTTCAATTTTCGTGTTGATGTTCGGC
AAGGATTTTTTCGTACACAGCTTGCGGCACGTAGCGGTGGATCGTTTCCGTCCAGCCTTC
CGGCCCGACCAGTCCTTTGACCATAGTGGACGACACTTCGGCGATTTCGCGCGGCGGCAT
GAGGAATACGGTGGATATTTCGGGGGCGAGGTCGCTGTTGATATGGCGCATGGAACGTTC
GTATTCGTAATCCGAAGCAGAACGGATGCCGCGCACGATGAATCCTGCATCTACCTCACG
GGCGTAATGCACCAGAAATCGGTTTTCAAATACATCGGTTCTGACGTTGGGAAACATTTT
AGTAATATCGCACAACATATCCTGCCTTTCAGCGACGGTATAGGTGCTGCGTTTGTCGGG
GTTAATGCCGATGGCGACGATGAGTTCGTCAAACATAGATTGCGCCTGCCGTATCATCCA
CAGATGCCCCAATGTGGGCGGATCGAAACTGCCGGCATAAACGGCGCGGCGCGGTGTATT
CGGTAACATTTGATTCCTCCCGGCTTCATAGTCGGCTGTGTGTTGGTGCGTGTGCATCCG
TATTGTATGCCCAAAGTAAAATGCCGTCTGAAGCATTTTCAGACGGCATAGTCGGACGGC
GTTTTACCGGCATCAATCCTCGCCGTTTAAAGACAACAGGATGTTCAGCAGGCTGCTGAA
GATGTTGTAAAGCGAGATAAACAGTGTCAGTGCCGCGCTGATGTGGCTGTCTTCGCCGCC
GTCGATGACGGTGCGTACCTGCCACATAATCATTAAGGAACTGAACAAGACAAAACCGGC
GGAAATGGTCAGGGCGAGTGCGGGAATACCCAAAAACAGATTGGCAACCACGGCGACCAT
CAGAATGACCGCACCTACGGTCAGGAAGCGTCCGAGCGCGTTCATATCGAGCCGGGTTCG
GCGCGCCAAGGCGGACATCGTTAAAAAGACGGCGGCGGTCATCGCGGCGGCAATGCCGAC
GATTTTCGCACCGTCGGCAATATGGAGCGCGTATTGCAGCACGGGGCCGATCAATACGCC
CATACCGAATGTGAATACCATCAGCAGGGTAACGCCGGTATTGCTGTAACGGTTTTTCTC
GATGAAGTGGATCATACCGTAGAAAAACGCCAACACGACGGCAAACCCTATCCAGCCGA
ACCGAAGGCGGCGTAAAAATTGAAACCGGCCATTGGCGGCAAGTGCCGCGCCTGCGGAAGC
CGGAATAAATGAAAATCCGAGCAGGCGGTAGGTTTTCTGCAGGACGGTGTTTTTAGAAAC
CGTATGCGCGGTGTAGTCGTAAACGTCGTGTTGCATATCATCTGCTCCTGAAAGCGCGGT
TGGGAATAATGGGGGATTTTAACATTGCCCAATGTCAAAATTTGTCCGGTTGCGTGAAGA
TAAAGTTGTCCGGCGTATTTTAAAGGCCGTCTGAAGCAGTTTCGGACAGCCTGTGTTCAA
AACGGAAAACCGTTATTGCGGAACGTATCCCTGAACGGCATCCGCCGCGTCGCCGAAGAA
ATACTGCTCCATCTGCTGAGCCAGGTATTCGCGCGCGCGCGGATCGGCGAGGCTTAAACG
GTTTTCGTTAATCAGCATCGTTTGGTGGCGCGTCCACGCCGCCCACGCTTCTTGCGATAC
GTTTTCAAAAATGCGCTTGCCCAATTCGTTGGGAAGCGGCGGAAATTTCATGCCTTCGGC
TTCTTTGTTGAGCTTGACGCAGAATACCATGCGTGCCATAGCGGATTCCTTTGCTGTGTT
CAGAAATAACGGGGTGATTTTAACCGATTAGGGATACGGCAAAAAGCCTTCTTATTCCCG
ATGATAGGGATGGTTGTGCAGGATGGAAACGGCGCGGTAGAGCTGCTCGGTCAGAAAGAC
GCGCACCATGCCGTGCGGCAGGGTCAGGCTGGACAGGCGCATCATCATGCGTGCCTGCTG
TTTGAGGCGGTCGGTCATGCCGTCCGCGCCGCCGATGACGAAGCAGACGTGTTCGCCGTT
TTGCCGCCAGCTTTTGAGGTGTTCCGCCAGCTCGACGGAGGTCGGTGCTTTGCCGCGTTC
GTCAAGAACGACGAGGAACGCGCCTTGCGGAATGGCTTCAAGATGCGTTTTCTTCCGCGC
CGCCATACCTTGGGCGGCATTCACGCCCGCGCCGCGTTTTTCGGGTTTGATTTCTTTGAG
TGCGTAGGCGACGTCGCGTCCGAAGCGTTTGGCGTATTCGGCGACGGCCTCATCAACCCA
GCGCGGCATTTTGGTGCCGACTGCCAAAACGGTGATGTTCAATGCTTTCTCCCTTACAGG
AAAATGCCGTCTGAAGGTTCAGACGGCATCGGGAATCAGTCTGCCGCGTGCCACGGCTTC
TGCATTCCGGCGTGGAAACTCGGTTTCTCGCCGCCCAGAGGGTGTCGATGTCGTAGAAG
TCGCGCACGGCAGGGAGCATGACGTGGACGACGAGGTCTCCTGCATCAACCAGCGTCCAT
TCGCCGCTGTCGCCTTCGGTACTGAGGATTTCAAAACCGGCTTCTTTCAAATCGACGGCA
ACGTTGTTGGCCAGTGCTTTGACTTGGCGCGTACTGTCGCCGCTGGCGATAATCATTCTG
GCAAACAGCGAAGTTTTGTCTTGGGTTTCGAGAACGGCAAATGTCTTTGGCTTTGATGTCT
CCGAGGGCGTTGACGGCGACCCCGACCATTTTTTGCAGGTCTTGCAGTTCTTGTTCGTTC
ATTATTTTTCCTAACGGGATGTTTTCAGACGGCATTATAGCCGTTTCTTACTGATTTGACT
TTATTTTTTCATACAAACCGTGTTCGCGGATGTAGCGTGCGGCGGCAGGCGGGATGCCGTC
TGAAACGCCTTGGCCGGCAAGGTTGCGGCGGATTTCCGTTGACGACACATTATGCATCGG
GGCGGACAAGATGCGGACGCTGCCGTCCTGAAGGGACTTGCCCAGCCACGCGTGCAGTTC
```

Appendix A   -477-

GCGCGGGGTTTGGTGCAGGCTGTCGCCCTGCCTCATGGCGACGGCGATATTGGTTTCGCG
CACGAGCATCTGCCATTTTTTCCATGTGTGCAGCTTCATCAGGCTGTCGCTGCCCATCAG
CCACCAGAGTTGCGCGGATGGGAACTGCTGGCGGAAGATTTGGACGGTATCAAAAGTATA
GGTTGCACCTTCTCGGACGATGTCGCAATCGCTGACGGCAAAACGCGCGTCTTCTGCCGT
CGCCAATTCGACCATGGCAAGGCGGTCGGCGGCGGAAGCGGAGGCTGCGTCTTTGTGATA
CGGGCCGCCTGTCGGCAGGAAAACAACCGCGTCCAAGCCGATTTCGTCGGCAAAGGCACG
GGCGATATGAAGATGTCCGTTGTGTATCGGGTCGAAAGTACCGCCGAACAATCCGATTTT
CTTCATGATGTTTCCATTCCTTCCGATAAGTCCATGCCGTCTGAAACACTGCCGTCCACA
ACCAGCGTCAGTTTGCCGGTAACGGGATGGATGACCAGTCCGTGAACGGCGATATGGCGC
GGCATCAGCGGATGGTTACGGATAAGGTCCACCGTGTGGCGCACGCTGTCTTCGACGTTG
TCGAAACCGGTCAGCCAGCCGTCGAGGTCGATACCGGCATAACGCAGGGTTTCGATACGG
TCTTCGGGAATCCGGCTTTCCCGGACGCGCCCGAGGAATTCTTCGGCATTCAGCCCCTGC
ATACCGCAATCGTGATGGGCGATGACCATAATCTCTCTGACCTTCAGTTCAAACACGGCA
ACCAAAAGGCTCCGCATCACCGAACCCCACGGGTGCGTAACCAGCGCGCCGGCATTTTTA
ATCAGCTTGGCATCGCCGTTTTTCAAACCCAACGCGTCGGGCAGCAGCCCGATAATCCGC
GCATCCATACAGGACAAAACTGCCAGCCCGCGTTCGGGGTATTTGTCGGTAAAGTATTTT
TCATATTCGCCCGACTCGACAAACTGCCGGTTATGGGCAAGGATGTTATCCAACTCGCTC
ATTTTGCCGTCCTCTGAAAAAGGGGTTCACATTATAACGTTTCCGTCTGTTTTCCGCCTTC
GCCGCCGTCCAACAGCAGGAAAATACCCAGCGCGAACGCCGCCAACAGCAATGTCAGCAC
CATCGCCCGCGCGTAATTATCCTCACCCGCGCGTCCCAAATAGGCATAAATCAAAGTCGT
CAGCGTCTGCCATTCCGGACGCGACAGAAACAATGTCGCCGCAAATTCGCCCACGCAGGT
TGCCGCCGCCAAAGTCAGACCGCGCCGCAACGCCGGTTTCAAGAGGGGGAACGTGATGCG
GCATGCCGTCTGAAAGCCGTTTGCACCCAAACCCGCCGCCGCCCTGCCGTAATCCGGCGG
CAGTGCATCCCAGGCTGATAAAAACATCTTTTGCCACAAACGGATACGCCAGCAGCGCATA
CATCGCCAGCAGCAACGGCAACGAAGCCGTCCACTGCGGATAAAGCAGCAGCACGCCCGC
CGAAACACAAACCGGCGACACCATAAACGGCAAAAACATCAGCCCGCGCATCCACGCCGA
CCGCCGCGCCGCCGCCGCATACACCACACCCAAAACCGCCGCCGCATACACCGCCGCCGC
CGAGAAGCGCAAAGTATTCCACACCGCCTGCCACGTTTCACTTTCCATTAACACACGCCA
CGATTCGCCGGCCGACCACGCTTTCACAACAATTGCCAACAAAGGAAACAGGCAGCACAC
AGACAACACCGCCGCCGCAAACGCCAGCAGCACATATTCCCCGACCGACTGCGGCGGCGA
CGGCATCACAGGGGAAACCGCCTTATCCGAAACCGCGCGCCTGCCGAACCACGCATACAG
CAACCCTGCCGCCGCCGTTACCCCCAACACCAGCCACACCAGCACCGAGCAACCGCCAT
ATCGAGTTCGAACATGACCAACTGGTAAATTTCCACTTCGACCGTGGCATAACGGCTGCC
GCCCAGCAGCAGCGCCAGCCCGAACCCGGAAAAACAATACAGAAAGACAAGGCACACGCC
GCCGGCAAGCCACGGGCGCAAAACGGGCATTTCAATGTCCAAAACCGCCGCCACGCCCC
CGCGCCCAACGTCCGTGCCGTCTGAAGCCGTGCCGCAGGCACTTGCACAAACCCCTGATA
CGCCGCCCTGACCAACACAGGAAGGTTGAAAAACACATTGCCGTACAACAACAGATACGG
CGTATCCTGCCTGCCGCGCCACAACAGCCCGTCCGCCCCGAACAGGGCCAGCACGCCCAC
GCCCGCCACCAACGTGGGCATCACAAAAGGCAGCATCAGCAGGCGCGCAGCACCAAAGCCCG
CCCCGGAAACGCCAGCCGCGCCAGCACCCACGCGACAGGCACGCCCAAAGGCAGCACCAG
CACACAGGTTGCCGCTGCCTGAAATACCGTCCACGCCAAACGTTTGAGCATATAGGCATC
CGACAGCACCGCGCGCCACGCCAAACCGTCATACGCCGCCACCGCCCACAAAGGCGCAAC
GACCATTACCGCCAAAAAAGCCGAAGGCAGCAGGGCAAAAGCACCCCATACCACCCAACG
CCGTCCATCCATCGCCTTCCCCACTTGAAACACTGATGTTGCGATTGTACCCAAAAGCCC
CCACATACCGTATATTTCAATCCGACTACATACCGTATCCGCCTTCCTCCCGCCGTCTGA
AATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCTGCAGACAGTACAAATAGT
ACGGAACCGATTCACTCGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGC
GAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATAAATCGTTCAAATAAACAGGAATA
TAACTTCAGACAAACAACTTACCGCCCGATTTGTGCTATCGTTTTCGCACAACTTAAAAA
AACCTGACAATTTTGTACTTTTATTACAGAGAAAGGCTTTACAAATGGACGGCTGGACAC
AGACGCTGTCCGCGCAAACCCTGTTGGGCATTTCGGCGGCGGCAATCATCCTCATTCTGA
TTTTTAATCGTCAAATTCCGCATCCACGCGCTGCTGACACTGGTCATCGTCAGCCTGCTGA
CGGCTTTGGCAACCGGTTTGCCCACAGGCAGCATTGTCAACGACATACTGGTCAAAAACT
TCGGCGGCACGCTCGGCGGCGTGGCGCTTCTGGTCGGCCTGGGCGCGATGCTCGGACGTT
TGGTCGAAACATCCGGCGGCGCACAGTCGCTGGCGGACGCGCTGATCCGGATGTTCGGCG
AAAAACGCGCACCGTTCGCGCTGGGCGTTGCCTCGCTGATTTTCGGCTTCCCGATTTTCT
TCGATGCCGGACTAATCGTCATGCTGCCCATCGTGTTCGCCACCGCACGGCGCATGAAAC
AGGACGTACTGCCCTTCGCGCTTGCCTCCATCGGCGCATTTTCCGTCATGCACGTCTTCC
TGCCGCCCCATCCGGGCCCGATTGCCGCTTCCGAATTTTACGGCGCGAACATCGGCCAAG
TTTTGATTTTGGGTCTGCCGACCGCCTTCATCACATGGTATTTCAGCGGCTATATGCTCG
GCAAAGTGTTGGGCGCACCATCCATGTTCCCGTTCCCGAACTGCTCAGCGGCGGCGCACG
AAGCAACGACCTGCCGAAAGAACCTGCCAAAGCAGGAACGGTCGTCGCCATCATGCTGA
TTCCCATGCTGCTGATTTTCCTGAATACCGGCGTATCGGCCCTCATCAGCGAAAAACTCG
TAAGTGCGGACGAAACCTGGGTTCAGACGGCAAAAATAATCGGTTCGACACCGATCGCCC
TTCTGATTTCCGTATTGGTCGCACTGTTTGTCTTGGGACGCAAACGCGGCGAAAGCGGCA
GCGCGTTGGAAAAAAACCGTGGACGGCGCACTCGCCCCCGTCTGTTCCGTGATTCTGATTA
CCGGCGCGGGCGGTATGTTCGGCGGCGTTTTGCGCGCTTCCGGCATCGGCAAGGCACTCG
CCGACAGCATGGCGGATTGGGCATTCCCGTCCTTTTGGGCTGTTTCCTTGTCGCCTTGG
CACTGCGTATCGCGCAAGGTTCGGCAACCGTCGCCCTGACCACCGCCGCCGCGCTGATGG
CTCCTGCCGTTGCCGCCGCCGGCTTTACCGACTGGCAGCTCGCCTGTATCGTATTGGCAA
CGGCGGCAGGTTCGGTCGGTTGCAGCCACTTCAACGACTCCGGCTTCTGGCTGGTCGGCC
GTCTCTTGGACATGGACGTACCGACCACGCTGAAAACCTGGACGGTCAACCAAACCCTCA
TCGCACTCATCGGCTTTGCCTTGTCCGCACTGCTGTTCGCCATCGTCTGACAGACGGAAA
GGATAGTAAATGACTACGCATTTTGTCGTTATGGGCGTATGCGGCTGCGGCAAGACCACC
GCCGCGCTGTCCCTGCAGAAACACCTCGGTCAATGTCCCTATGCCGAAGGCGACGAGTTC

Appendix A   -478-

```
CACACCCAAGCCAACCGCGACAAGATGGGCGCGGGTATTCCGCTGACCGATGAAGACCGC
TATCCGTGGTTGGGCAATCTGCGCGACTGGATGACGCAACAGGCGCAAAACGGTGCGAAC
CACACCATCGTAACCTGTTCCGCCCTCAAACGCGGCTACCGCGACATTCTGCGCGGGAGCC
GAAGGCAAAGCTGCCTTCATCCACCTCAGTCCGCCGCAAGCACATCAACCTCGAGCGCATG
ATGTCGCGCAAAGGACATTACATGAAAGCAGGGATGCTCGATTCGCAACTGGAAATCCTC
GAGGAACTGGGCGAAGGCGAATACGGGGTCAAAATCGCCAACCCCGGCACGCCCGAAGCG
GTCGAAGCCGATATTCTGAACTGGGTTGCCTCGGAAAACCTGCTTTGAAGCAATATGCCG
TCTGAAGCCCGACACAGGATGGGTTTCAGACGGCATAAACATCGGGAACAGAATGGATTA
CATTGATTTATAGTGGATTAACAAAAACCAGTACAGCGTTGCCTCGCCTTAGCTCAAAGA
GAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATCTGTACTGTC
TGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATAAAATGGAAAATACCCGG
CTATCGTCTCATTTTCGTTTTAATCAGCCATAAAAATGCCGTCTGAAACCCTTTCAGACG
GCATTTCTGTCAAACGCCGGACGCACTCAACCCAAACTCAACAGCAGGTTGCGGAACGCG
TTCGGGTCTTTGATAAACGTCATCTCGCCCGCCTGCGGAAAATGAAAATCCAACAGGCGC
GACACCCAAAAACGGATGCAGCCGGCACGTTGGGCGGTCGGGAAATACGCCTTTTCTTCG
GCACTCAAGGGGCGCACGCCCTCATAACCGCCGATAAACGCCTTTTTCAACGCCTCATCC
AACTTATTGTCCGCCGTCCTTGCCCAATCGTTGACCGCAATCGCCAAGTCATACATAAAA
TTGCCCCGGCAGGCGTAATAGAAATCGATGAAGCCCGATACCTGACCGCCGTCAAGCAAC
ACATTGTCTTTAAACAGATCGGCATGGATGATGCCCGAAGGCAGATGATTGCCGAGATTG
TCCTTCAACGCATCGATTTCGGAACACAGCAGTGCGGCATCGTCTTGCGACAGGACGGGC
AGCAGCCGGGCGCACGCCTCCGTCCACCACGCATTGTAACGCGGGTTTTCCATTTCCAAA
GGGAAATCGGCGGCCGGCAAGGTGCATTTTCGCCAACATCGCACCGGTATGAAAACACTGC
TCAGCCGTCGGCAGCGCGGTATCCGAACCTTTCAGGCAGGCAACCAGGCAGGCAGGCTTA
CCCGCCAAAACGGAATCAAGCCGGCCGTCTTTGCGCGCAACCGGCGCGGCAACCGCCACG
CCCTTCATACTCAAATGCCGGTTAAGCTCCAGAAAAAACGGCAGCTCTTCCTGTTTCAAC
ACTTCAAACACGGTCAGCACATAACGTCCCGAAGTCGTCGTCAGAAAATAATTGCTGTTG
GTAATCCCCTGCGCGATGCCCTGCAGGGAAACAAATTCCCCCAAATCGTAACCGCTCAGG
AAGCCGCGCATTTCATCATCGGAAACACTGGTATAGACAGACATATCAACTCACTTGCTC
AAAAACGGGCAAACCCGCCGTCAGAACGCCGGACGGCAGGCAAACATATAATTCACATCG
GTCGAATCGCACAGGGCATAAGTTTGCGACAACACATGGTAAGTCATACCCTTCGTATCC
GCCACATCCAAGCCTGCCTGACGGCACATTCGCGCCAGCTCGGCAGGTGCGATGAATTTT
TTCCAGTCGTGCGTGCCTTTGGGGACAAACTTCAACAGATATTCCGCCGCCACAATCAGA
TGCAGGTACGATTTCGGGTTTTTATTGATGGTGGAAAAAAACACCATGCCGTCCGGTTTG
ACCAGATTGGCACAAGCACGCACGATGGCGGCGGGATCGGGGACGTGTTCCATCATTTCC
ATGCACGTTACCACATCGAACGAGTGCGGTTCCGCCTCGGCAAGGTCTTCCACGCGGATA
CATTCGTATTCGATATCGGCGACATTGTTCAAAGCCGCGTGCAGGCGGGCGGTTTCCAAC
GACTGCTCCGCCATGTCGATGCCCTTTACAAACGCCGCGCCGCGCCGCGCCATACTTTCC
GCCAAGATGCCGCCGCCGCAGCCCACGTCCAAAACCCGTTTGCCGCACAAATCCGCGTGT
CCGTCGATATAATCCAGCCGCAGCGGATTGATGTCGTGCAAGGTTTTGAACTCGCCCGAC
TTGTCCCACCATTTGTCGGCAATCCGGCTGAATTTGGCGATTTCCCCCTCATCGACATTA
TATTTTTTGTCGGACATTTTCCCTCCCATCTGACGAACCGCCCACTCCAAAACCCAAGAT
TATACTATGGAACACAATGCCGTCTGAAAGCCTTTTCGGGCGGCGCGGCGCAAATACCTT
ACAAATCCTTACACTTTACGGCATAATGGCGGCTCGCTTTTTCTGGCAGAAAGACAAAAT
ATGCCCAACAAAACCCCTTCACTGTTCGGCGGCGCGATGATTATCGCCGGCACGGTCATC
GGCGCAGGCATGCTCGCCAACCCGACCGCCACATCCGGCGTATGGTTTACCGGCTCGCTG
GCCGTGTTGCTGTACACCTGGTTTTCTATGCTTTCCAGCGGCCTGATGATTTTGGAAGTC
AACACCCATTATCCGCACGGCGCAAGTTTCGACACGATGGTCAAAGACCTGCTCGGACGC
GGCTGGAACATCATCAACGGCATCGCCGTCGCCTTCGTTTTATACCTGCTTACTTACGCT
TATATCTTCGTCGGCGGCGACCTGACCGCCAAAGGCTTAGGCAGCGCGGCAGGCGGCGAC
GTTTCACTCACCGTCGGACAACTCGTCTTCTTCGGCATCCTCGCCTTTTGCGTATGGGCA
TCCGCACGCTTGGTCGACCGCTTCACCGGCGTCCTTACGGCGGCATGGTATTGACCTTT
ATTTGGGCGGCCGGCGGGCTGATTGCCGATGCCAAGCCGTCCGTCCTCTTCGATACCCAA
GCCCCCGCCGGCACAAACTACTGGATTTACGCCGCCACCGCCCTGCCCGTCTGCCTCGCT
TCCTTCGGCTTCCACGGCAACGTCTCCAGCCTGCTCAAATACTTTAAAGGCGACGCGCCC
AAAGTGGCTAAATCCATCTGGACGGGCACACTGATTGCGCTGGTAATTTACGTCCTCTGG
CAAACCGCCATCCAAGGCAACCTGCCCGCCAACGAGTTCGCCCCCGTCATCGCCGCCGAA
GGGCAAGTCTCCGTCCTCATCGAAACCCTGTCCAAATTCGCCCAAACCGGCAATATGGAC
AAAAATATTGTCCCTGTTTTCCTATATGGCGATCGCCACCTCGTTTTTAGGCGTAACGCTC
GGACTCTTCGACTACATCGCCGACATCTTCAAATGGAACGACAGCATCTCCGGCCGCACC
AAAAACCGCCGCGCTGACCTTCCTGCCGCCCCTGATTTCCTGCCTGCTCTTCCCCACCGGC
TTCGTTACCGCCATCGGCTACGTCGGCCTGGCGGCAACCGTCTGGACAGGCATCATCCCC
GCCATGCTGCTCTACCGTTCGCGCAAAAAATTCGGCGGCAGGCAAAACCTATAAAGTTTAC
GGCGGCTTGTGGCTGATGGTTTGGGTCTTCCTTTTCGGCATCGTCAACATCGCCGCACAG
GTATTGAGCCAAATGGAACTCGTCCCCGTATTTAAAGGATAAAGGCAAAATGCCGTCTGA
AGCCCGCCGGCGGCTTCAGACGGCATTGCCGCAACAAACGGCAACCGTATTCCGGCACAC
AGCGCATTACCCTGCCCCTCACGCACAAATCCCGCCCCGACAAACCGGGACGCAACCATA
AAGGAACAATGATGAAGCTCAAAATAGACATTGCAACCAACAACTTCAAACACGGCGGCG
GCACGGAACGCTACACATTGGATTTGGTAAAGGGTCTGAACAGACAAAACATCACACCGG
CCGTTTATGCGACGAAATTTGATCACAGCATTCCTGAATACGCCCTAATCGAACCCCATC
TTGTCGATCAACACCGGACGCTGAAAAAACTACGCTCATTCCTCTTTTCAAGCCGGCTCG
CTCAAACCAGAAAAAACAGTGCCGCCAAACTGATTGCCTGCCACCACGCCGATTACGCCG
ACCTCCTCATCTGCGGCGGCACACACTTGGGCTACCTGCACCATATGGCGCAAAAACCGA
TTATGGCGCATTCCCATATGATGCGGCGCGAACTGGTCGGACTGTACGGCGTTCCCCCTG
AAAGAATCCAAGTCGCCCCCCCCCCCCCGCAGATACGGAACGCTTCTTTCCACAACCCGGA
```

Appendix A   -479-

```
GAAACTGCCGACCTGCGCGCCAAATACGGCTTTGCCGACCATGAAACCGTTTTCCTGTTC
CCATCGACCGGCCACACGCGCAAAGGTCTGGAACTGCTTGCCGACTTTTTCGAACATACC
AGCCTGCCCGTCAAGCTCGCCGTTGTCGGCTCCCCGCTTCCCGCCCTATGAAAAACGTC
GTCGGACTGGGCTTCTGCACCGATATGCCCGAACTCTACCGCCGCCGCCGACTTTACCATT
ATGGCTTCCCTGTACGAACCCTTCGGGCTGGTCGGCGTCGAATCCGTCCTATGCGGCACA
CGCGTCGTCCTCTCCGAAAACATGGCATGTACAGAGGTCATGAACGAAGAAGCCGGCTTC
TTTTTTCTCACGCCAAAACCCGGAAACCCTGGCGCAAGCCGTTGCCCAAGCCGTCAGCCTT
AAAAAACAGGGCGGACACCGCCTGTCCGACCCGATGCGGGCACTGAACTACAACCCGGCT
TTAGACAAACACATCGGGCTGATTCTTGAAATGCTTGCCGCCTGACCGCGTCCCCAAACG
GCATTGCCCCGCAACTTCCGCGCCGAGACTTTTGCAGCGGAAAATACGTCCGGCAGAAAA
TCCGCCGTTGCAGGAGCAGGCAGGAAAACATCGGCAACCGCCCCCGAAACGCCGTACCCG
CGCATTGCAAGCGGTTGCCGGAACAGGCGCGTTATCGCGCGGCACAGGCGCATTTCCACC
GATATTTCAGTATAATGCCACCCCCGACCTGCCCCAATCCAAAGGAAACGCGATGAAACT
CATCATTCTCGACCGCGACGGCGTCATCAATCAGGACCGCGACGACTTCGTCAAATCCGT
TGACGAGTGGATACCTGTCGAAGGCAGCATGGATGCGGTGGCATTTCTGACGCAGGCAGG
CTACACCGTCGCCGTTGCCACCAACCAATCCGGCATCGGGCGCAAATATTTTTACCGTTCA
AAACCTTACCGAAATGCACGCCAAAATGCACCGCTCGTCCGTCAGGCAGGCGGCGAAAT
CAACGGCATCTGGTTCTGCCCGCACACCGATGCCGACAACTGCAACTGCCGCAAGCCCAA
ACCGGGTATGATTGAAGACATCATCGGACGCTTCAACGCCCAAGCCTCGGAAACCTGGCT
GGTCGGCGACAGCCTGCGCGATTTGCAGGCAATCGATGCCGTCGGCGGCAAACCCGCGCT
GGTTCTGACCGGAAAAGGCAAAAAAACGCTCTCCCAACACGGACACGAATTGCCCGAACA
CACACAGGTTTTCGATACCCTGCTCGATTTCTCACAATACATCATGCAGGAAAACACCGC
ACCGCAAGCCGACTGAACATACCGCATTCCGACAAGGCAAAACCATGCTCATCATCCGCA
ACCTGATTTACTGGCTGATACTCTGTTCCACCCTGATTTTCCTCTTTCCCTTTATGCTGC
TCGCCTCGCCTTTCCGGGACGGGGCGCACAAGATGGCGCGGGTCTGGGTCGGCATTCTCA
ACTGGTCGCTCAAACACATCGTCGGGCTCAAATACCGCATCATCGGCGCGGAAAACATCC
CCGACCGCCCCGCCGTCATCTGCGCCAAACACCAAAGCGGCTGGGAAACGCTCGCCCTTC
AGGACATTTTTCCGCCGCAGGTTTACGTTGCCAAACGCGAGTTGTTCAAAATCCCCTTTT
TCGGCTGGGGCTTGAAACTGGTCAAAACCATAGGCATAGACCGCAACAACCGCCGCGAAG
CCAACGAGCAGCTCATAAAACAGGGGTTGGTGCGCAAAAACGAAGGCTATTGGATTACCA
TTTTCCCCGAAGGCACGCGCCTTGCGCCCGGAAAACGCGGCAAATACAAACTCGGCGGCG
CGCGCATGGCGAAAATGTTTGAGATGGACATCGTCCCCGTCGCCCTCAACAGCGGCGAAT
TTTGGCCGAAAAACTCCTTTCTGAAATATCCGGGGGAAATCACCGTCGTCATCTGTCCGA
CCATCCCGCACGCAAGCGGCAGCGAAGCCGAATTGATGGAAAAATGCGAACATCTCATCG
AAACGCAACAACCGCTTATTTCCGGCGGCAGGCCCGTTTGCCGCCAAAATGCCGTCTGAAA
CCGCATGACCGCCTTTGTCCACACCCTTTCAGACGGCATGGAACTGACCGTCGAAATCAA
GCGCCGTGCCAAGAAAAAACCTGATTATCCGCCCCGCCGGCACACATACCGTCCGCATCAG
CGTCCCACCCTGCTTCTCCGTCTCCGCTCTAAACCGCTGGCTGTATGAAAACGAAGCCGT
CCTGCGGCAAACACTGGCGAAAACACCGCCGCCGCAAACTGCCGAAAACCGGCTGCCCGA
ATCCATCCTCTTCCACGGCAGACAGCTTGCCCTCACCGCCCATCAAGCACGCAAATCCT
GCTGATGCCGTCTGAAATCCGTGTTCCCGAAGGCGCACCCGAAAAACAGCTTGCGCTGCT
GCGGGACTTTTTTGGAACGGCAGGCGCACAGTTACCTGATTCCCCGCCTCGAACGCCACGC
CCGCACCACACAACTGTTCCCCGCCTCCTCCTCGCTGACCTCTGCCAAAACCTTCTGGGG
CGTGTGCCGCAAAACCACAGGCATACGCTTCAACTGGCGGCTGGTCGGCGCACCGGAATA
CGTTGCCGACTATGTCTGCATACACGAACTCTGCCACCTCGCCCATCCCGACCACAGCCC
CGCCTTTTGGGAACTGACCCGCCGCTTCGCCCCCTACACGCCCAAAGCGAAACAGTGCGT
CAAAATCCACGGCAGGGAACTTTTCGCCTTAGGCTGACGCGGACCGGACCGACCCGCCGC
TTTCAGACGGCATCCGTGCCGGAACAGGCACGCGCCCGCCCGATTCAAACCGCGATGACG
CTTTGCCGCCGGTTCGGGGCAGGATGGCGGCACACACGCCGTCTGCCGCGTTTCATTTCA
CACCGCTCTTCCGAAACCCGAAACCCGCCCGGTCCGACGTGCGGTATGAAACGCTTAAGC
TGACGCGAAGTCTTTTACTGATTTGCCCGCGAAAATGCCGTCTGAAAGGTTTTCGGACGG
CATTTTTTTTGCGTTTCCCAGGATGGCGGCGGATTCGTAAAAGGCGGTCAGGGTGGATTG
TAGGATGGGTTGAGACCTGCCGAATCCGCCGCATCTGCCAAATCTACCGCCGTCATTCCT
ACGAAAGTGGGAATCTAGAACGCGGGGTTAAGAAAACCTGCATCCCGTCATTCCCACGAA
AGTGGGAATCCAGTTTTTTGAGTTTCAGTCATTTCCGATAAATTGCCTTAGCATTGAATG
TCTAGATTCCCGACTGCGCGGGAATGACGAATCCATCCATACGGAAAACCTGCACCGCGTC
ATTCCCACGAAAGTGGGAATCCAGGACGAAAAATCTCCAGAAACCGTTTTATCCGATAAG
TTTCCGCACTGACAGACCTAGATTCCCGCCTGCGCGGGAATGACGAATCCATCCATACGG
AAACCTGCATCCCGTCATTCCTACGAACCTACATTCCGTCATTCCCACGAAAGTGGGAAT
CCAGAATCCCAGACTTTCAGATAATCTTTGAATATTGCTGTTGTTCTAAGGTCTAGATTC
CCGCCTGCGCGGGAATGACGGGATTTGAGGTTTCTGTTCGCGTCATTCCCACGAACCTGC
ATCCCGTCATTCCCACGAAAGTGGGAATCTAGTTTTGTCGGTGCGGAAACTTATCGGATA
TAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGG
AACCGATTCACTTGGTGCTTCAGCACCTGAGAGAATCGTTCTCTTTGAGCTAAAGCGAGG
CAACGCTGTACTGGTTTTTGTTAATCCACTATAAAATGGTTTCTTTAGATTTTACGTCCT
AGATTCCCGCCTGCGCGGGAATGACGATTCGGGCACTCCTGACAGGGTAAATTCACAGGA
TAGCGATTCGTAGCAACTGCATCCCCCCCCCCCAACAACTCCCCAAACAACGCCGCTCGC
CCTGGGCGTTTGCCGTTTCCCTGCAAAATCTGCGATACAATGCAGTCTGAACATTTATCC
GAATCCCAAATCCGATGGATACCGCACAAAAACAACGCTGGGCAATAACCCTATCCTATG
ACGGCAGCCGCTTTTACGGCTGGCAGAAACAGGCTGACGGCGTACCGACCGTTCAGGCGG
CATTGGAAACCGCGCTCGCCCAAATAGCAGGGGAAGCGGTTTCCACCACCGTTGCCGGCA
GGACCGACACCGGCGTGCATGCCACCGCCCAAGTCGTCCACTTCGACACAACTGCCGCCC
GTCCCCAACAGGCATGGGTGCGCGGCGTAAATGCCCACCTGCCCGAAGGCATTGCCGTTT
TGCACGCCCGACAGGTCGCCCCCGAATTTCATGCACGATTTGACGCATACGGACGGCACT
ACCGCTACCTGCTCGAATCCGCCCCCCGTCCGTTCCCCCCTGCTCAAAAACAGGGCAGGCT
```

Appendix A   -480-

```
GGACACACCTCAAACTCGACATCGGGCAGATGCGGCAGGCTGCCGCCTTATTGGTCGGCG
AACAAGACTTCTCCAGCTTCCGCGCCGCCGAATGCCAAGCAAAATCCCCGTCAAAACCA
TCTACCGCGCCGACCTTACCCAAAGCTCAGGACTCGTCCGCCTCGATTTGCACGGCAACG
CCTTTTTGCACCACATGGTACGCAACATCATGGGCGCGCTCGTTTATGTCGGCAGCGGCA
GACTCAGCGTCGAAGGCTTCGCCGCACTGATTCAAGAACGCAGCCGCCTCAAAGCCCCGC
CGACCTTCATGCCCGACGGACTTTACCTGACCGGCGTCGACTATCCCGAGGCATACGGCA
TCATCCGCCCCCAAATCCCCGAATGGCTTTAAAACATGCTTGTCGCGGAGATTTTGAAAT
CGGACAAACTGTCAGGCAATCTTTTTCCATGTTGACACTACCTCATCAAGGTACTAACAT
TGTTATTACATAAACAGGTGAATATGGTACGTATATGATTCTCAACATACGCAAAATGGG
AAACTCGCAAGGCGTGATTCTGCCCAAATCATTATTGGGTCAAATAGGGGCAGTAGACAG
CTTGGCTGTTACAGTTGAAAAGGGCAATATTATTTTAAGCTGTCCTACCGTTCGCAGGGG
ATGGGCAGAAGCTGCCGCAATGCTTGTCGAAACCGAGCAGGAGCATTTTTTTTCCGAAAT
TGAAAACGAAGCGGATAAAGAATGGATATGGTAGTACGCGGCGGAATCTATCTGGTCTCC
TTAGACCCGACCGTAGGAAGCGAAATCAAAAAGACACGTCCTTGTGTCGTAGTCTCTCCT
CCTGAAATACACAACTATCTCAAGACTGTGCTGATCGTTCCCATGACGAGCGGAAGCCGT
CCTGCCCCGTTCCGCGTCAATGTCCGCTTTCAGGATAAAGACGGTTTGCTTTTGCCCGAA
CAGATTAGGGCTGTGGATAAAGCCGGATTGGTCAAACATCTTGGCAATTTAGCAACAGT
ACGGCTGAAAAACTGTTTGCAGTATTGCAGGAGATGTTTGCCTGATTGAATAGTCTGAAT
GGATTGTGTTCATTATAGTGGATTAACTTTAAACCAGTACGGTGTTGCCTCGCCTTAGCT
CAAAGAGAACGATTCTCTAAGGTGTTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGT
ACTGTCTGCGGCTTCGTCGCCTTATCCTGATTTTTGTTAATCCACTATAAAGACCGTCGG
GCATCTGCAGCCGTCATTCCCGCGCAGGCGGGAATCTAGAACGTGGAATCTAAAGAAACC
GTTTTACCCGATAAGTTTCCGCACCGACAGACCTAGATTCCCGCCTGCGCGGGAATGACG
GGATTTTAGGTTTCTAATTTTGGTTTTCTGTTTTTGAGGGAATGACGGGATGTAGGTTCG
TAAGAATGACGGGATATAGGTTTCCGTGCGGATGGATTCGTCATTCCCGCGCAGGCGGGA
ATCTAGAACGTGGAATCTAAGAAACCGTTTTATCCGATAAGTTTCCGTGCGGACAAGTTT
GGATTCCCGCCTGCGCGGGAATGACGGGATTTTAGGTTTCTAATTTTGGTTTTCTGTTTT
TGAGGGAATGACGGGATGTAGGTTCGTAGGAATGACGGGATATAGGTTTCCGTGCGGATG
GATTCGTCATTCCCGCGCAGGCGGGAATCTAGACCTTAGAACAACAGCAATATTCAAAGA
TTATCTGAAAGTCCGAGATTCTAGATTCCCGCCTGAGCGGGAATGACGAAAAGTGGCGGG
AATGACGGTTAGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGTTGAAG
CACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGA
TTTTTGTTAATCCACTCTAAAGACCGTCGGGCATCTGCAGCCGTCATTCCCGCGCAGGCG
GGAATCCAGACCTTAAGGCAGCGGCAATATTCAAAGATTATCTGAAAGTCCGAGATTCTA
GATTCCCGCCTGAGCGGGAATGACGAAAAGTGGCGGGAATGACGGTTAGCGTTGCCTCGC
CTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTAC
TATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATCTCCT
GCCGCAGGGGCGGGTTTTGCATCCGCCCGTTCCGAAAGAAACCACGTGCGCGTTTTTTGC
CGTCTTTATAACCCCCGGTTTGCAATGCCCTCCAATACCCTCCCGAGTAAGTGTTGTAAA
AATGCAAATCTTAAAAAAATTTAAATAACCATATGTTATAAAACAAAAAATACCCATAATA
TCTCTATCCGCCCTTCAAAATACACATCGAATTCCACACAAAAACAGGCAGAAGTTTGTT
TTTTCAGACAGGAACATCTATAGTTTCAGACATGGAATCGCCGAAAACGTCGGCGGTAAA
TGCAAAGCTAAGCGGCTTGGAAAGCCCGGCCGGCTTAAATTTCTTAACCAAAAAAGGAAT
ACAGCAATGAAAAAATCCCTGATTGCCCTGACTTTGGCAGCCCTTCCTGTTGCAGCAATG
GCTGACGTTACCCTGTACGGCACCATCAAAGCCGGCGTAGAAACTTCCCGCTCTGTATTT
CACCAGAACGGCCAAGTTACTGAAGTTACAACCGCTACCGGCATCGTTGATTTGGGTTCG
AAAATCGGCTTCAAAGGCCAAGAAGACCTCGGTAACGGCCTGAAAGCCATTTGGCAGGTT
GAGCAAAAAGCATCTATCGCCGGTACTGACTCCGGTTGGGGCAACCGCCAATCCTTCATC
GGCTTGAAAGGCGGCTTCGGTAAATTGCGCGTCGGTCGTTTGAACAGCGTCCTGAAAGAC
ACCGGCGACATCAATCCTTGGGATAGCAAAAGCGACTATTTGGGTGTAAACAAAATTGCC
GAACCCGAGGCACGCCTCATTTCCGTACGCTACGATTCTCCCGAATTTGCCGGCCTCAGC
GGCAGCGTACAATACGCGCTTAACGACAATGCAGGCAGACATAACAGCGAATCTTACCAC
GCCGGCTTCAACTACAAAAACGGTGGCTTCTTCGTGCAATATGGCGGTGCCTATAAAAGA
CATCATCAAGTGCAAGAGGGCTTGAATATTGAGAAATACCAGATTCACCGTTTGGTCAGC
GGTTACGACAATGATGCCCTGTACGCTTCCGTAGCCGTACAGCAACAAGACGCGAAACTG
ACTGATGCTTCCAATTCGCACAACTCTCAAACCGAAGTTGCCGCTACCTTGGCATACCGC
TTCGGCAACGTAACGCCCCGAGTTTCTTACGCCCACGGCTTCAAAGGTTTGGTTGATGAT
GCAGACATAGGCAACGAATACGACCAAGTGGTTGTCGGTGCGGAATACGACTTCTCCAAA
CGCACTTCTGCCTTGGTTTCTGCCGGTTGGTTGCAAGAAGGCAAAGGCGAAAACAAATTC
GTAGCGACTGCCGGCGGTGTCGGTCTGCGCCACAAATTCTAATCTGCAAAGATTGGTATC
AACAAAAAGCCTGTCGCCAGACAGGCTTTTTTCTGTTTGGCTTTTTCCTGTTTTCTGTTT
GGCTTTTTCCTGTTTTCTGTTTCGCTGTTTTCTGTTTCGCTGTTTTCTGTTTCGCTGTTT
TCTGTTTCGCTGTTTTCTGTTTCGCTGTTTTCTGTTTCGCTGTTTTCTGTTTGGCTTTTT
TCTGTTTGGCTTTTTTCTGTTTGGCTTTTTCCTGTTTTTAGTCTTTTTTATTCAATGTCA
AAATATGCCGTCATTCCCGCGCAGGCGGGAATCTAGTGCGTTGAGTTTCAGCTATTTAGA
ATAAATTTTGAAACTTTAATCCCGTCATTCCCACGAAAGTGGGAATCCAGGACGCAAAAT
CTCAAGAAACCGTTTTACCCGATAAGTTTCCGCACCGACAGACCTAGATTCCCGCCTGCG
CGGGAATGACGGGATTTGAGGTTGCGGCATTTATCGGGAGCAACAGAATCCGCTCTGCCG
TCATTCCCACGAAAGTGGGAATCTAGTTCGTTCGGTTTCGCTTGTTTTAAGTTTCGGGTA
ACTTCCACTTCGTCATTCCCGCGCAGGCGGGAATCCAGTGCGTTGAGTTTCAGCTATTTA
GAATAAATTTTGAAACTTTAATCCCGTCATTCCCACGAAAGTGGGAATCTAGTTTTTTGA
GTTTCAGTCATTCCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTGCGCGG
GAATGACGGCGGAAAGATTCTATTTTTCCCGATAATCGCCCACAATCTCAAATTCCTTCA
TTCTCTCAAAAACAAAATCAGAATCCTAAATCCCATCATCCCCATCTATGTGAATATAAA
AATTTTAAAAATTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCA
```

Appendix A   -481-

```
AAGAGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATCTGTAC
TGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATTTTCACAAGCGA
AAGAATGCCGTCTGAAGCCTTTTTTCCGGTTTTCAGACGGCATTTTTTGCTTGACGTTTA
ACTGTAAATCTTCGCGCCTTTTTTGACGAACTCGACCGCTTTTTCCTCCATGCCCTGCCG
TTGGGCTTTTTTGCTTGTCGGCGTAGTCGCGCACTTCCTGCGTGATTTTCATCGAGCAGAA
TTTGGGGCCGCACATCGAGCAGAAGTGGGCGATTTTCGCGCCTTCGGCAGGCAGGGTTTC
GTCGTGGAAGCTCTCGGCACGTTCAGGGTCGAGGCTTAAGCGAAATTGGTCGCGCCAGCG
GAACTCGAAACGCGCTTTGCTCAGGGCGTTGTCACGTAATTGTGCGCCCGGCCAGCCTTT
GGCGAGATCGGCGGCGTGGGCGGCGAGTTTGTAGGTGATGATGCCGGTGCGCACGTCTTC
TTTGTCGGGCAGCCCCAAATGCTCTTTCGGGGTAACGTAACAAAGCATCGCCGTGCCGTA
CCAGCCGATATTGGCCGCGCCTATGCCCGAGGTGATGTGGTCGTAGCCGGGTGCGATGTC
GGTAACGAGCGGGCCGAGCGTGTAAAAAGGTGCTTCAAAGCAGTGTTGCAGCTCTTCGGT
CATGTTTTCTTTGACGCGTTGCAGCGGCACATGGCCGGGGCCTTCGATCATGACTTGTAC
GTCATGTTTCCACGCTTTATCGGTCAATTCGCCCAAGGTGTGCAGTTCGGCGAATTGGGA
TTCGTCGTTGGCATCGGCAATGCAGCCGGGGCGCAGGCCGTCGCCGAGGCTGAACGATAC
GTCATACGCTTTCATAATTTCGCAGATTTCGTCGAAATGCGTGTAGAGGAAATTTTCCCG
ATGATGTGCCAAACACCATTTCGCCATAATCGAACCGCCGCGCGAGACGATGCCGGTGAG
GCGGTTGGCGGTCATCGGCACATAACGCAGCAACACGCCCGCGTGTATGGTGAAATAGTC
CACGCCTTGCTCCGCCTGTTCGATGAGGGTGTCGCGGAACAAATCCCAAGTCAAATCTTC
GGCGATGCCGCCGGTTTTTTCCAACGCTTGGTAAATCGGCACGGTGCCGATGGGGACGGG
CGCGTTGCGGATAATCCATTCGCGCGTTTCATGGATGTGCGCGCCGGTGGACAAATCCAT
AATCGTGTCCGCGCCCCAACGCAGCGACCACACCATTTTTTCGACTTCTTCGGTCAGGCT
GGAGGTGACGGCGGAGTTGCCCAAGTTGCCGTTGATTTTGACACGAAAGTTGCGGCCGAT
AATCATCGGTTCGAGTTCGGGGTGGTTGATGTTGGCGGGAATAATCGCGCGTCCGGCGGC
GATTTCTTGGCGCACGAATTCGGGCGTGATTTGGTCGGGATGGGTCGGGATGTTCGCACC
GAAACTTTGCCCCGCGTGCTGTTCCAAGAGTTTGGCGTATTCCGGTTTTTGGGACAATTC
GTCTAATTTTAAACGTTCGCCTATGGCGACAAACTCCATTCGGGCGTGATAATGCCTTG
GCGCGCGTAGTGAAGCTGGGTTACGTTGCTGCCGCTTTTCGCGCGGCGCGGGCGGGTGAT
TTGGTTGAAACGCAGATGGGCGGTTTTCGGATCGTGTGCGCGTTCGATGCCGTATTCGCT
GGAGAGCTTGGGCAGGATTTCGGTATCGCCGCGTTCGTCCAGCCACGCGGTGCGGATGTG
CGGCAGACCTTGTTTCAGGTCGATATGCGCCGCCGGGTCGCCGTACACGCCGCTGGTGTC
GTAGACGGGAATCGGCGGATTGGCTTCCGTACCTTGCGCCGTGTAGGTGTCGTCCTGACG
GATTTCGCGCAAAGGCACGCGGATGTCGTCGCGGCTGCCTTGCAGATACACGCGTTCCGA
GTTCGGATATTTAAAGCAGATGCCGATGTCTTCGCTCAAGTCGGCAAGCTCGCGCGCTTC
GTTGCCGGAAGTTTTGGCGGTTTTTTTTGGCGTAGTCATAAAAAAATGCTCCTGTTTTCT
CGTTTAGAATTAAAGAAACAGGAGCGTTTTGCGTTTTCAGACGGCATTTGAAAACCAATG
CCGTCTGAAAAGCAGAATCCGTGAAAACTCCCCACGCAGGTATTATCCCGATCGGGTGTA
AAGGGTATTTCTCAGCCGCCTAAACATCAGGCAGCACCCCTGTTTCAATGTTAACCAAAA
TTAAATCACGAACATGAACTTTTGTAAAGAAAATAATATTTCAAATCAGGCATAAACCGC
CGGACGGCAAAATTTTATGATTTTTCGCGGAAGTAATGTTTGACAACATAAAAAATCTGC
CGTATAGTTTCATCTTCTGACGCGGGATGGAGCAGCATGGTAGCTCGTCGGGCTCATAAC
CCGAAGGTCGTAGGTTCGAATCCTGCTCCCGCAACCAAATATCAAACCCCTCGGTTCAAT
GCCGAGGGGTTTTGTTTTGCCTGTTTCCTGTTTCCTGTTTCCTGCCGCCTCCGTTTTTTG
CCGGATTTTCCTTCCGGCCGCAATATCGGAACGGCAGACCGCCGTCTGTTTGCGGTTGCA
AATTCAGGCAGTTTGGCTACAATCTTCCGCATTGTCTTCAAGAAAGCCAACCATGCCGAC
CGTCCGTTTTACCGAATCCGTCAGCAAACAAGACCTTGATGCTCTGTTCGAGTGGGCAAA
AGCAAGTTACGGTGCAGAAAGTTGCTGGAAAACGCTGTATCTGAACGGTCTGCCTTTGGG
CAACCTGTCGCCGGAATGGGTGGAACGCGTCAAAAAAGACTGGGAGGCAGGCTGCTCGGA
GTCTTCAGACGGCATTTTTCTGAATGCGGACGGCTGGCCTGATATGGGCGGACGCTTACA
GCACCTCGCCCTCGGTTGGCACTGTGCGGGGCTGTTGGACGGCTGGCGCAACGAGTGTTT
CGACCTGACCGACGGCGGCGGCAACCCCTTGTTCACGCTCGAACGCGCCGCTTTCCGTCC
TTTCGGACTGCTCAGCCGCGCCGTCCATCTCAACGGTCTGACCGAATCGGACGGCCGATG
GCATTTCTGGATAGGCAGGCGCAGTCCGCACAAAGCAGTCGATCCCAACAAACTCGACAA
TACTGCCGCCGGCGGTGTTTCCGGCGGCGAAATGCCGTCTGAAGCCGTGTGTCGCGAAAG
CAGCGAAGAAGCCGGTTTGGATAAAACGCTGCTTCCGCTCATCCGCCCGGTATCGCAGCT
GCACAGCCTGCGCTCCGTCAGCCGGGGTGTACACAATGAAATCCTGTATGTATTCGATGC
CGTCCTGCCCGAAACCTTCCTGCCTGAAAATCAGGATGGCGAAGTGGCCGGGTTTTGAGAA
AATGGACATCGGCGGTCTGTTGGATGCCATGTTGTCGGGAAACATGATGCACGACGCGCA
ACTGGTTACGCTGGACGCGTTTTGCCGTTACGGTCTGATTGATGCCGCCCATCCGCTGTC
CGAGTGGCTGGACGGCATACGTTTATAGGATGCGCCATGCTTGAACTGAACGGACTCTGC
AAACGCTTCGGCAATAAAACCGTCGCCGACAACATCTGCCTGACTGTCGGGCGCGGCAAA
ATACTCGCCGTTTTGGGGCGGTCGGGCTGCGGAAAATCCACCCTGCTGAATATAATTGCG
GGGATTGTCCGGCCGGACGGCGGGGAAATATGGCTGAACGGAGAAAACATTACCCGTATG
CCGCCCGAAAAACGCCGTATCTCGCTGATGTTTCAAGATTACGCGCTGTTTCCCCATATG
AGTGCGCTGGAAAATGCGGCATTCGGTTTGAAAATGCAAAAAATGCCGAAAGCCGAAGCC
GAACGCCTCGCCATGGCGCACTTGCCGAAGTCGGACTGGAAAACGAGGCGCACCGCAAG
CCTGAAAAACTTTCCGGAGGCGAGAAGCAACGGCTGGCGTTGGCGCGCGCTTTGGTTGTC
CGCCCTTCCCTGCTGCTGTTGGACGAATCGTTTTCCAGTTTGGACACGCATTTGCGCGGC
ACGCTGCGCCGTATGACTGCCGAACGTATCCGAAACGGCGGCATCCCTGCCGTTTTGGTA
ACGCATTCGCCCGAAGAAGCCTGTACGACGGCAGACGAAATCGCCGTGATGCATAAAGGG
AGGATTCTACAATACGGTACGCCCGAAACATTGGTCAAAACACCCATCCTGCGTGCAGGTC
GCCCGACTGATGGGTTTGCCCAATACCGACGATAACCGCCATATTCCGCAACATGCGGTG
CGTTTCGACCAAGACGGCATGGAGTGCCGCGTATTATCCCGTACCTGTTTGCCCGAATCG
TTCAGCCTGTCCGTCCTCCATCCGGAACACGGCATCCTGTGGCTGAACCTCGATATGCGG
CACGCCGGGGCGGTATCGGGCAAGGATACGGTACGCATCCATATCGAAGAACGGGAAATC
```

```
GTCCGCTTCCGCTGATGCTTCTTAAAAACAAAATGCCGTCTGAAAACCTTTCAGACGGCA
TTTTTTTACCAAAGCAGCCATATTTTTTTATCAGGGCTGCAAAATTTTATCCGAAACAAC
AACAATCTTTTCATCGTCATTCCCGCGCAGGCGGGAATCTAGAACGTAAAATCTAAAGAA
ACCGTTTTTCCCGATAAGTTTCCGTGCCGACAGACCTAGATTCCCGCCTGCGCGGGAATG
ACGGATTTTAGGTTTCTGATTTTGGTTTTCTGTTTTTGAGGGAATGACGAGACTTGAGAT
GGCGGCATTTATCGGGAGCAACTGAAACCACCCTGCCGTCATTCCCGCAAAAGCGGGAAT
CTAGAACCCAACACGGCAAAAATTTATCCGAAGCGACAACAATCTTTTCATCGTCATTCC
CGCGCAGGCGGGAATCCAGAACGTAAAATCTAAAGAAACCGTTTTTCCCGACAAGTTTCT
GTGCCGACAGACCTAGATTCCCGCCTGCGCGGGAATGACGGGATTTTAGGTTTCTGATTT
TGGTTTTCTGTTTTTGAGGGAATGACGAGACTTGAGATGGCGGCATTTATCGGGAGCAAC
TGAAACCACCCTGCCGTCATTCCCGCAAAAGCGGGAATCTAGAACCCAACGCGGCAAAAA
TTTATCCGAAGCGACAACAATCTGAGACCTTTGCAAAATTCCTTTCCCTCACAACAGCCG
AAACCCAAACACAGGTTTTCGTCTATTTTCGCCCCAAATACCTCCTAATTCTACCCAAAT
ACCCCCTTAATCCTCCCCGGATACCCGATAATCAGGCATCCGGTCGCCTTTTAGGCGGCA
GCGGGCGCACTTAGCCTGTTGGCGGCTTTCAACAGGTTCAAACACATCGCCTTCAGATGG
CTTTGCGCACTCACTTTAATCAGTCCGAAATAGGCTGCCCGGGCGTAGCGGAATTTACGG
TGCAGCGTACCGAAGCTCTGTTCGACCACATAACGGGTCTTCGACAAATATCGGTTGCGT
TTGGTTTGCGCCTCCGTCAGCGGACGGTTGCGGCAGGCTTTGCGCATAATATAGTGGATT
AAATTTAAACCAGTACGGCGTTGCCTCGCCTTGCCGTACTATCTGTACTGTCTGCGGCTT
CGTCGCCTTGTCCTGATTTAAATTTAATCTACTATAATGTGCAGTTTCTCGATATAGCCT
TCCGCATCGGTGCGGGTATGTTGTTTGTAACCGAGTTTGTAGAGGCCGTTTTTCTTGATC
CAACGCGCATCGCTGTCCTTACTCCGTGTGGTTTGGCCGCTGACTTGTCCTTCTTCATCG
ACTTCTATGGCCTGACGCTGTTTGCCGTCGGCGGTCTGAATAATGGTGGCGTCAATGACG
GCGGCGGATGCTTTCTCTACTTTTAAACCTTTTTCGGTCAGTTGGCGGTTGATCAGTTTG
AGCAATTCGGACAGGGTGTCGTCTTGCGCCAGCCAGTTGCGGTAGCGGCATAAGGTGCTG
TAATCGGGGATGCTCAGTTCGTCGAAACGGCAAAACAGGTTGAAGTCGATGCGGGTAATG
AGGCTGTGTTCGAGTTCGGGATCGGAGAGGCTGTGCCATTGTCCGAGCAGGACGGCTTTG
AACATGGACAGCAGCGGATAGGCGGGACGGCCGCGGTGGTCTCGAAGGTAACGGGTTTTT
TGACGGTTCAGGTATTGTTCGATCGGCTGCCAATCAATCACTTGATCCAACTTCAATAGC
GGGAAGCGGTTGATGTGTTTGGCAATCATGGCTTGTGCGGTTTGCTGGAAGAAGGTGCTC
ATGGAAAATCTCCTAAATGTCTTGGTGGGAATTTAGGGGATTTTGCAAAGTTTTCAACAA
GTTTCCGCACCGACAAACCTAGATTCCCGCCTGCGCGGGAATGACGGGATTTTAGGTTTC
TGATTTCGGTTTTCTGTTTTAAGGGAATGACGAGACTTGAGATGGCGGCATTTATCGGGA
GCAACAGAAACCACTCTGCCGTCATTCCCGCGAAAGCGGGAATCTAGAACCCAACGCGAC
AAAAATTTATCCGAAGCGACAACAATCTTTTCATCGTCATTCCCGCGCAGGCGGGAATCT
AGAACGTAAAATCTAAAGAAACCGTTTTTCCCGACAAGTTTCTGTGCCGACAGACCTAGA
TTCCCGCCTGCGCGGGAATGACGGGATTTTAGGTTTCTGATTTCGGTTTTCTGTTTTAAG
GGAATGACGAGACTTGAGATGGCGGCATTTATCGAGAGCAACTGAAACCACTCTGCCGTC
ATTCCCGCGAAAGCGGGAATCTAGAACCCAACACGGCAAAAATTTATCCGAAGCGACAAC
AATCTTTTCATCGTCATTCCCGCGCAGGCGGGAATCTAGAACGTAAAATCTAAAGAAACC
GTTTTTCCCGATAAGTTTCCGTGCCGACAAACCTAGATTCCCGCCTGCGCGGGAATGACG
GATTTTAGGTTTCTGATTTTGGTTTTCTGTTTTTGAGGGAATGGCCGATTTTGGGTTTCT
GTTTCGGTTTTCTATTTTGCAAGAATGGCAAAATTTCAGATTGCGGGCATTGTTAAGTAT
TTCTATTTTTTACCTGCCGTATTTATTTCCGCCCCTTGAAGTCGGCTTCTTCCTCGACAG
ACACGCTGTTCATCTGTTTGATCAGCTTTTCCGACTTCTCGTCTTCGCAGCGGATGA
CTTTCACAATATCACTTTCGAGCTGTCCGACATTGCTGTGCAGAATGATGTTTTTGACGG
GCAGGATGTTGTTGGGGTTCATGGAAAAACGGCGCAGCCCCATACCCAATAAAACGCGGG
TAAACGCGGTATCGCCCGCCATCTCGCCGCATACGGATACGTCTTTGTCCATGCGGTTGG
CGGTACGGATGACGTGTTGCAGCATTTTCAGCACGGCGGGATGGCCGGGCTGGTAGAGGT
GGCTGACGCTGTCGTCGCCGCGATCGACGGACAAGATGTATTGAATCAGGTCGTTGGTAC
CGACGGAGATGAAATCGACCAGTTTCAAAATACTGCCGACGGTCAGCGCGGCAGACGGAA
TTTCAATCATACAGCCGATGCCGACTTTACCGAAGGCATCGCCGCGTTCGGCAAGCTGGC
GTTGCGCGGTGTCGAGGTGGATGAGGCACTGGCGCACTTCGGATACGGAGGTAATCATCG
GCCACATCATCCGCACGGGGCCGTGTACCGCCGCACGGAGGATGGCGCGCATCTGGGTGC
GGAACATGACCGGTTCGGCAAGGCACAGGCGGATGCCGGTCATGCCCAGCGCGGGGTTGA
GGCTGCCGTTGGGCGTGCTGTTTTTCCCGAACCAGCGCGGGTTTTTGTCCACACCTAAAT
CGACTGTCCGTATCGTTACGCTTTTGCCTTTCATTTTTTTGACAATCGCGCTGTACACTT
CGTACTGCTCGTCTTCAGACGGCATCGTATCGCGGTTCAGGTAAAGAAACTCGCTGCGGA
ACAGCCCGATGCCGTCTGCGCCGAGGTTGTGCAGCGGTTTCACGTCTTCGGCGGATTCTA
TATTGCCCACAAGCTCGATGCAGACCCCGTCGGCGGTGGCGGCGGCGGTTTTTTTGAGCT
TGTTCAAATCGCGTTTGTGGCTGCGGTATTCGCGGGCACGGCGGCGGTATTCGTTCAACA
CCGACTCATCCGGCGCGATAATCAACACGCCGTTGATACCGTCCACAATGACCGTTTCGC
CTTCGGTAATCAGTTTGCGCGCGTTGTGCAGCCCGACGACGGACGGGATGTCCAAGCTCC
TGCCCAAAATCGCCGTATGCCCGGTGGGGCCGCCGGCATCGGTAACGAAGGCGGCAATGC
GCTGCTCTTTAAACAAAACCGTGTCGGCGGGCGAAAGGTCGTTTGCAATCAGAACGGTTT
CGTCAAACAGGTTGTCGGCAACTTCCAACTCGTTGCCCTGCCCGATCAGGTTGTTGTGGA
TGCGGCGGACGACTTGCAGCATATCCTGCTTGCGTTCGCGCAAATAGGCATCGTCCATAT
TGTCGAATTGGGCGGCGAGTTTGTCGCTCTGCTGCTTCAATGCCCACTCGGCGTTGATTT
TTTGTTCCCTTAAAATATCGACGGGTTCGCGCGACAAGGTAACATCGGTCAAGAGCATCA
GGTGTAGCGAGATGAACGCGCCCAACTCGGTCGGGGCGTTTTCGGGAATCGCGCTGCGGA
GCTGTTCCAACTCTTTGCGCGTGGCTTTGACGGCGGCCATCGAAACGTTCGGCTTCGGCAT
CGGTGTCCGCCTCCGCAACATCATACTGCGGCACTTCCTCCGTACCGCGCGCAATCAGGT
GGGCGCAACCGACGGCAATGCCTTTGCCCGCCGCCACGCCGTGCAGCACGATACTCATTA
TTCGCCCTCGCCGAAGTAGCCGTTGATTAAGTCGGTCAGGGCGCGCATCGCTTCCGCCTC
GTCCGCGCCGTCCGTCTCCAGTTCGATGACCGTACCCTTGGCGGCGGCGAGCATCATCAG
```

Appendix A   -483-

```
CCCCATAATGCTTTTGCCGTTGACGCGGCTGTCGTTTTTCGTAACCCAGACTTCGCTTTT
GAATTGGGACGCGGTTTGGGTGAACTTGTTGGACGCGCGGGCGTGGAGTCCGAGTTTGTT
GATGATTTCGATGGATTGTTTGAGCATTTCGATTCCCGTGTTATGTATATCGGCAGCAGA
CGCCGTTTAAAATGTTTTCCTGCCCTGCCGCTTCTTCAGACGGCATCGCCGCTGCGCCGG
CACACCAAATCTTCGGGCGCGGACGTGATGGCGAAAATGCCTTTTACCGCCGCCTCCCTG
ACGCATTCGGTAAAGGCGGCAAGGTCTTCCGCCGCCGGCGAATATTGGACGGCCTTAACC
ATCATCGGCGCGTTCAGCCCGGTCAAAATCGCCGATTTGTTTTCGCGCACGAGGCGGCGG
GCGGCATTGCAGGGGGTCGCACCGAAAATATCGGTCATAATCAGCACGCCGTCGTTGTCG
GGAAATTCCTGAAGCGCGGCAATGGCGTTGTTGTTGATGTCGTCTTGGTCTTCCGTCGGC
TGCACGCCGAGTATGCGGACGTTTTCAGGCAGTCCGCCCGGAAAAAAATGATGCGCCAGC
TTGCGGTAGGCTTCGCCTATGGTTTCGTGTGTGATGATTAAAAGCCCTATCATATTATGC
GTCCTGTTCCTCATTATCCTGCCGGCGTATGGGCGCGATGCCGTCTGAACAGCCTTCAGA
CGGCATCGCGCCCTTATTTTCCGCCCAATGCGTAAATCTCGCCCAGATTGCGCCAGCAGC
CCGCCGCCATCCATGCCGTAACCGAAAACATAACGGTTCGGCACATCCAGTCCGACATAAT
CGGCTCGGATAGGCTTGGGTTTGTCAATCAGCTTGTTGGCGAACACCGCCGCACGGCAGC
TTGCCGCACCCATTTCCAAAAGTTTGGCTTGAATGGCGGACATCGTATGCCCTTCGTCCA
AAATATCGTCCAGCACGACGACGTGCCTGCCCCGGATTTGTTCCGCATCGGGCATACGCT
TCCCAGTTGAACGCGCCGCCCTCCAGCTTGTCGCCGTAACGGGAAACGTGAACATAATCAA
AATCTAAGGGAAAACGCAACAGCGGCAGCAACTGCCCCGTAAACACCACCGCGCCGCCCA
TCACGGGCAGCAGCAGCGGATATTTGCCGCCCAAATCGCGTAATCTCGTCGCGCCACTT
TTTGCAGTGCGGCACGGCATTGGCCTTGGTCGAACAAAAGATCGGCGTTTTCAAGCATCG
CCTGCTGTTTCAAGGCGTTTGGTTTCTAAATCGGTCATATGTCGGAATCGGTCGGTAAAAG
GAAAATTATAAACCAAAGTATCGGATGCCGTCTGAACTGTCCTGCTCAGCGGTCGGTACG
CACGCGCACAAATGTGGCAAATTTCGGCGTGCCTTTCCGCGTAAAGCCACGGTAACGGTA
GGTAATCAGTGTGCCGATTTTGGGCGGGTTGTCGCGGTCTTTATCTTTGAAACCGCTGCC
GATGCGGAATTCGCCGTGCCGGTTTTTGCAGCCGACCGCGCCCAGCCGTCCGGCGTTTCG
CCCTTTGCCCTCATAGTGCCGCGTTACCGTGCATTCGTCGTCGTATTGGCTTTTCAGCTT
CAATAATTGGCTGCTCCTGCCGCCGCTGTAACGGGATTCGGGCTGACGCAGCATCACGCC
TTCGCCGCCCTGCGCTTCGATTTGTTTTAAAAAGTCCATCGCGTGCTGCCGGTCGCGCAC
TTTGATTTGCGGGATGATGGTAATCGGCGCGTTCGGATGCGTTTTCAGCCACTGCGTTGC
GACTGCCAAACGTTGGTAGAGGTTGCCCTGCGCCTTGGGTACATCGAAAACGTGCAGGCG
GATGCCGCGCCAGTCTGAAGAAACAGAACGCACGGTAGCGGAAATCTGCTCGAACTGACC
ACGTCCGCTATACAATTCGCCGTCCAAAGGATAAGGCGGAAACTGAGCGGTAAAACCTTT
GGGCGGAGCAAACGCGTAGCCCTGACGGCTCATCAGGTGCTTTCCGTCCCAATAGGCGCG
CACGCCGTCGAGTTTCTCGCTCATCGCCCAGCCGGCAATATCCTGCCCTTTGTATTCCTG
CGCCAGCATCAAATCCGCCGCGCCTGCTGATGCAGGGATGAAAACCGCCGTAAAAATCGG
TATGATGCCGCCGATTGTCTTCTTAATCATCTGATTCCCCCAATATCAAAACGGGCGGCA
AACCGCCATAAAACAAACGGCAAACCCGATGCCGTCTGAAAAACCGTTTAGGAACACGCC
GATGACCCTACGTTACGAAATCTTCCCCGTTACCCCCTTCCGCCAAAACTGCACCCTGAT
TTGGGACGACGAAAGCGGCGAAGCCGTCCTGACCGATGTCGGCGGCGACGTGCCGTTCCT
GCTGCAAGCGTTGGCAAACCGCAAACTTACGCTCACGGCAATCTGGCTGACGCACGGCCA
TCTCGATCACGCGGGCGGCGTGGTCGAAATGTTGAAAACGCATAAAGTCCCTGTCCTCGG
GCCGCATCCGGACGATGAATTCCTGCTCCAATCGCTGCCGCAAACCACCGCGCAATACGG
ATTTCCCGTCTCGCCCGCCTTTGCGCCGAACCGTTGGCTCGAAGAAGGCGAAACGCTCAC
GGTCGGACGCTATGCCTTTCAAGTGCTGCATATTCCGGGCCATACGCCGGGACATATCGT
CTTTTATTGTGCCGAGGCGGCGAATTGCTGATTGCGGGCGACGTGCTGTTTTACGAAACCAT
AGGCAGAACCGATTTTCCGCGCGGCAACCACGCCGACTTAATCAATAATATCCGCAACAA
ATTATTCACCCTTCCCGAAACCGTGCAAGTTGTCGCCGGACACGGGCGTATGACTTCCAT
CGGACACGAAAAGCGGCACAATCCGTTTTTCTAACCGCCTTCCCTACGGTCTTCAGACGG
CATCATCTGCACTGATGCCGTCTGAAACACAAAAGGCTCAGACAACCGCCGCCTTGCCGG
TGTACCTCGCCGGACAAGGCTTTGGTAAGTACTTCAAACAAACCCAAAATCAGAACCAGT
ACAGTTACGCCGCGCTTTCGGCATTCCCGCCCCGGCTGAAACAATATTTTTCCGCACAAG
TCAGACTGCTTCATCTTCTGCCGCGTATTCCAAAGATTCCGACAACGCCGTTGTTTCATT
GGAACGCTCGACCAAATCCCGTTGAAGTTGTTTGCCTGCCTTCACGCCCAACAGACGCAG
TTTCTCGGCGCGTCCGACCAGATTCCCGCGCCCTTCGGCAAGTTGCTTGAATGCCGTCTG
AAAACTGCTTTGCGCCTGATCGATGCCTTTGCCGACGCTTTCGAGCGTCTGTACGAAGCC
GACAAACTTGTCGTACAGCTTGCCGCCTTCGTCCGCAATCGCCAGTGCGTTCTGATTTTG
CTGTTCGTTGCGCCAAATATTCGCCACCGTCCTCAAAGTCGCCAGCAGCGTACTGGGGCC
GACCAGCATAATCCGTTTGTCGAAACACTCTTGGAACAAGCCCGCGTCATTCTGCAACGC
CAACAGGTAGGCCGGTTCGACAGGGATAAACATAAAGACGAAATCCAATGTGTTCACACC
TTCCAAATCGGTGTAATCCTTCAGCGACAAGCCTTTCATGTGTGCACGGATGCTGGCAAC
GTGTGCCGCCAGTTCGCGTGCCGCCGTATCCGCATCCGCCTGCGTGTGAGCGCACATA
AGCTGTCAGCGAGACCTTGGAATCAATCACAATCGCTTGTTGTCGGGCAGGTTGACCAA
AACGTCGGGCTGGAGGCGGCGCGTGCCGCCGTCTTCCTCTTTTCGGACGGATGCCGCCTG
AACCACATATTCCCGCCCTTTCTGAAGGCCGGAATTTTCCAAAACCGTTTCCAGAATCAT
CTCGCCCCAATTGCCCTGAACCTTATTCTGCGTACCGGTCAGCGCGTTGGTCAGGGCCTT
TGCCTCGCTGTGCAGCTGCGCGTTCAACCCCTGAAGCCGTTTCAATTCGTTTTCCAACGT
CAGCCGCTCGCGCGATTCTTTATCATAGGTTTGCTTGACCAACTCGCCGAAACCGTGGAT
GCGTTCGTTTAGCGGGTTCAAAACCTGATGGAGCTGCTCGCGGTTCTGCTCGGTAAAAACG
GCGGCTTTTTTCTTCCAAAATCGTGTTGGCAAGATTTTGAAACTGATCGCTCAAACTTTT
GCGCGCCTCGCCCAGCAAGGACAGCTTCTCTTCAGAAGCAAGGCGTTCCTGTTCGATTTG
CGTTGCCAAACGTTCGTTTTCAACCGCCAAACCCTGTGCCTTTTCCTGCAACTCGGTATG
CGACTGCCTCAACCGCTCCGCTTCCGCCTCTTTTTCCTGCAAATGGGCAATCTGTTTTTC
GGCTGCGGCAAAACGGTTGCCGACATCGGAAAGGTCGTTTTGCACGTCGCGGACAGTTTG
GCGGCTTTCTTCCAAATCGGTTTCCATTCTTTGGCGGATTTGGCGTTCCAAGGCATATTG
```

Appendix A   -484-

```
GTCGGCAAACGCCTTCCGTTCCTGTCCGAGCTGCGTTGCCAAACGTTCGTTTTCAACCGC
CAAACCCTGTGCCTTTTCCTGCAACTCGATATACGACTGCTTCAGCCGCGCCGACTCCGC
CTCTTTTTCCTGCAAATGGGCAATCTGCTTTTCGGCTGCGGAAAAACGGTTGCCCAAAGC
ATAATTTTCGTCCTGCAAATGCCGGTATTTCCCGTCCAACACCGCCAATTCCGACACGGT
TTTGCCGTGTGCCTGTTCGACAAAATCACATCTTGCCGCCTTTTCCGCCAGGTGCGCGTT
CAAACCGGCAAACTCGCCCTGAAACCGGCCCTTCATCAGCCAACCATGTAAACAACACGCC
CGACACCAACGCCGCCAAAGGCAGCAAAACAGTCATCAGTTCCATCAATTATCCTAATAT
TCAAACATTTTCACACCGGACAAAACCGCCGCTTATTCCGATTCTACCTGTTTGTTCGAC
ATAGCTCCAAAAAATATAGCGGATTGGCTTTAAACCTGTTCGACATCGCCTTACCATGCT
GCTTGCGGTTTCAGACCTTTTCCTAATTCAATATCAATCTGCCACAAACCCTGATTAAGT
TCCCGATGTCTGACATTTTTAGAATGATGCCGTCTGAAATGTTGCAGCTATGTTCAGACG
GCATACGGATTCAGGCTTTTCAAACGGCAGGCAAAATGAAAAAAGGGCAAACCCTAAAGG
ATTTGCCCTTTTGTTCCAAACGCTTAGTGTACGTCTTTCCAATATTCTTTATTTAGGAAG
TAAGCCAAAGGCAGCATAACCGCAAATAGGAAAATCATCACGACATAGCCTATACGTTTG
CGTTGCAGTTGTGCAGGTTCGCCCATGTACACAAGGTAATTGACCAAATCGCGTACATAT
GCGTCGTACTCTTTTTGGATCACTTTGCCGTTAGGCAGGCGGCGGCTGTGCAAACCGGTA
GATTCCCAATACAGCTTAGGCTTCATCTCGCCGTGTTCGTCTTTTACCATAACCGGCTGA
CCTTTGGCATCCAACTCAACGGCTTGAACACCTTGTTGCTCCCACAACGGGTGGGGCATA
CCGACTTTATCGAATACAGTATTGTTCCAGCCGCTCGGACGGGTCGGATCTTTATAGAAG
CCGCGCATATAGGCGTAAAGGTAGTCTGCACCTTTGGAACGCGCAATCAACGTCAAATCG
GGCGGAGCAGCACCAAACCATTTTGCCGCATCTTTCGGGTTCATCGCCGAATGCATGACA
TCGCCGACATTATCGGTGGTAAACATCAGGTTTTTCTTGATTTCTTCGTCAGTCAAACCG
ATGTCTTTCAGACGGTTGAAGCGCATACCGCTTGCAGAGTGGCAAGACAAACAGTAGTTT
GTAAAGATTTGCGCACCGTGCTGCAGGCTGACTTGGTCACGCAGGTCGATATCGACTTTT
TCGTAGTGTCCGCCGCCGCTGGCGACGGCTGCACTCATAGGCACTGCCAGCAATAAGGCA
GCAAACCAGTTTTTCAGAGTTTGTTTCATTTTCGCTGCCCTCATCAGATATTGGTTGCAA
ACAAGTAAGCACCAACAACGGTAATACCGACGTAAACAAAGAACATAATTTTTTGTTTAG
TAGTGCTCATGGTTACGCGTTCAGGAACTGGTTTGTTGGTATCCAGTTTGGTATAGAACG
GCATACCCAGGAAGAATGCAAAGTAGACGAAAGACAGGATACGTGCAACCAAAGTACGCG
TATCAGTTGCTACCATTGCACCCAAAATACCCAAACCGATGAAGGCAATGATGAACAGAA
CCAATGCGGTTTTGAAGATTGGGCCGCGATAGCGGACAGATTTAACCTCGCCTTTATCCA
ACCAAGGCAGCAAGGCGATCAGTACAACTGCTGCACCCATACCGATTACACCCCATACCT
GAGTACCGGCAAAGGAAGGAATCGCACGCAGAATTGCGTAGAACGGAGTGAAGTACCATA
CCGGCGCAATGTGCGGAGGTGTTTTCAGCGCATTCGCTGCATCGAAGTTTGGCGCTTCCA
AGAAGTAGCCGCCGCCTTCAGGTGCAAAGAACATCACGGCACAGAAGACAATCAAGAATA
TCGTTACTGCCAATATATCATGCACAACATAATACGGAAAAAAAGGTATGCCATCTAGAG
GGACACCGTTTTCATCTTTCAGCTTTTTGATTTCTACACCGTCAGGGTTGTTGGAACCCA
CTTCATGCAAGGCAATGATATGAGCCACAACCAAGCCGAGCAATACCAAAGGTACAGCGA
TAACGTGCAGGGCGAAGAATCGGTTCAAAGTAACATCGGAAACGTTGAAGTCACCGCGGA
TCCAAGTGGACAAATCAGGACCGATAACAGGGATGGCGGAGAACAGGTTAATAATTACCT
GCGCACCCCAGAAGGACATTTGACCCCAAGGCAGCAGGTAGCCCATAAAGGCTTCTGCCA
TCAATGCCAAGAAAATCAGGGAACCGAAAATCCACACCAATTCGCGCGGTTTTTTGTACG
AACCGTAAATCAGACCACGGAACATGTGCAGATAAACGACGATGAAGAGAAAGATGCGC
CGGTAGAGTGCATATAGCGGATAATCCAGCCGCCGGACACGTCGCGCATGATGTACTCTA
CTGCCGGTAAAGGCAGCAGGCAGATGGTAGGCGTTAAGGTTGCCGTCCGGTTTGTAGTTCA
TGGTCAGGAAAATACCGCTGACGATTTGAATCACCGCCACCAGCATAGACAATGAGCCGA
AGAAATACCAGAAGTTGAAGTTTTTAGGCGCATAGTATTCAGACAGATGCTCTTTCCACA
TTTTACTTAATGGAAAACGGGCATCTACCCAGCCTAACAATGCTTTTGCTTTGCTATTGG
TTTGGTTTGCCATAATTATCGTTCCTTATTCTTAGTCTTCGCCCACCAAGATAGTTGTGT
CGCTCAAGTATTTATATGGCGGGACAACCAGGTTGGTCGGGGCAGGAACACCTTTATATA
CGCGGCCGGCCAAGTCGAATTTCGAACCGTGGCAGCGGCAGAAGAAGCCGCCTTTCCAGT
CTGCACCCAAATCGGCGGGGGCAATGTCGGGACGGGAAGGTGGGCGAGCAGCCCAAATGGG
TGCAGATACCGATGGCGACAAGGATGTTCGGCTTAATCGAACGGGTCTCGTTTTTAGCAT
ACTCCGGCTGCTGTTCCGCATCGGAATTGGGATCGGTAAGTTCGCCGTTCAGGCCTTTCA
GGTCTTTAAGCTGCTGATCTGTACGGTTGAGCACCCAAATCGGTTTGCCTTGCCACTCGG
CGGTCAGCAGCTGACCCGCTTCGATTTTACTGACATCCACCTCGACGGCAGCACCGGCGG
CCTTGGCTTTTTCCGAAGGGAAAAAACTGGCCACAAACGGCGTTGCCACACCCAATGCTG
CCACTCCGCCCGCGCCGCAGGTCGCGAGTGTCAGGAAACGGCGGCGGCCGTTGTTGATTT
CTTGATTATCCATTATTCAGTCGTCCTAATATTTTGGGAATACCGAGCCATTAAACGTTG
CAATTTTACCCAGTTTGCAGTGATACTCAAAGCATTATTTAAAATAAGGTAAAGTTTTAT
GATATTTCTCAAGACTCAAGCCGATTGTTTTCGTCAAAATGGCACACTTCCAACCCGAA
AACCTCTGCCGCCGATTCTGCCAGCGCGCGTACGCCGTAACGTTCCGTCGCGTGATGCCC
TGCCGAAATGAAAGCCGTACCCGTTTCATTGGCAAGGTGGTATTGGGCTTCAGAGATTTC
CCCCGTCAAATACAGATCGACACCTTCGTCTATTGCCGTCTGAAAAAACCCCTGCGCCCC
GCCGCTGCACCATGCAACCCGTCGGATTTCGCGTTCGGGATTGCCGATAACGACAGGCTT
ACGTTGCAAAACTGTTTCAATATGCGCCGCCAATGCGCCGAGTGTCTTGGCTTGTTTCAG
GCTGCCCGAGTTGAGCAGGTTTTGTTCGCCGAACCGTTTTTCTGTCGCAAAACCCAATCT
GTCGGCGAGTTGGGCATTGTTGCCCAGTGTGGGATGTGCATCCAGGGGCAGATGGTAGCC
TGCCATATTGATGTCGTGCCGTAACAGTGCGGCAATCCGTTCTTTTTTCCAACCAGTAAC
GGTCGGCAACTCGTTTTTCCAGAACATACCGTGATGTACCAAAAGCAAATCTGCCTTCTG
CTCCACAGCAAAATCAATCGCTGCCCTGCTTGCCGTTACCGACGTAACGATTTTCCCGAT
ATATTCCCTCCCTTCAACCTGCAAACCGTTAGGGGCGTAATCTTTAAACAACGCTGTCTG
CAATGTTTCATTACACCAAGTCAGAAAATCCCTGCACAATACCATCTTTTTTCCTAATCG
CTTTAAACAAGCGGGCATTCTAATCGCAAAATGTCCGGAATTCACATTTTTCCGATTTGC
ACCCGCATATGAATTATTTTAATATGCGCCGGTTCAATATGCCGTCTGAAGCCCCATGGA
```

Appendix A   -485-

```
TTCCATTATCGAATTGCGCCACCTCAAAACCCTGCTGGCACTTGAAGAAACCGGCAGCGT
CTCCCTTGCCGCCAAACGGGTTTTCCTTACCCAATCCGCCCTTTCCCACCAGATCCGTAT
GCTCGAAAACCACTACGGCACGCCGCTGTTCGAACGCAAATCCACGCCCTTGCGCTTTAC
CCCGGTGGGCGAAAGGCTGCTGCGCCTCGCCCACGAACTTATACCTCAAGTTGCTGTTGC
AGAATGGGATTTGGCGCGAATCACGGAAGGAGAGGCGGGAGAGCTGCGGATTGCCGTCGA
ATGCCATACCTGTTTCGACTGGCTGATGCCCGCCATGGGCGAATTCCGCCCGATGTGGCC
CCAAGTCGAATTGGATATCGTATCGGGATTCCAAGCGGATCCCGTCGGACTGCTGCTGCA
ACACCGTGCCGACCTTGCCATTGTTTCCGAAGCGGAAAAACAAAACGGTATTTCTTTCCA
ACCGCTGTTTGCCTACGAAATGGTCGGCATTTGCGCACCAGACCATCCGCTTGCCGCCAA
AAACGTTTGGACGGCGGAAGACTTTATCGGGGAAACCCTGATTACTTATCCCGTTCCCGA
CGAGATGCTGGATTTGCCCAAAAAAATCCTGATTCCGAAAAACATCAACCCGCCGCGCCG
ACACAGCGAGCTGACCATCGCCATTATCCAACTGGTTGCCAGCAGACGTGGCATTGCCGC
CCTTCCCTATTGGACAGTCATGCCCTACCTTGAAAAAGGCTATGTCGTCCACCGCCAAAT
TACTGCCGACGGACTGCAAAGCAAACTGTATGCCGCCATCCGTACCGAAGATACGGACAA
GAGCTATCTGAACAATTTTTGCCAAATCATACGCGAACGCGGTTTTGCAGATTTGCCCGG
ACTGAGCGAACTGGAACCGGTCTGACCCCTTATTCAACCATACCCGGCAGTTTTTCTATT
TTTTCATGTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTGCCATACTAT
TTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATACTGTTTT
TGATTTTTGCCCAATCTGTAATCTTTAGATTGCCAATGGGAAACCGTCTACTACAAATAA
AAAACCCTGCGATAAGCAGGGTTTTTTGAATTTCCAACATTAACGTTTGGAGAATTGTTT
TGCACGGCGTGCTTTGCGCAGACCCGGTTTTTTACGTTCGACTTCGCGGGCATCGCGGGT
AACAAAACCAGCTTGAGACAAGGCGGGTTTCAACGCGGCATCGAAGTCGATCAGGGCACG
GGTAATGCCGTGGCGGATTGCGCCGGACTGGCCGGTTTCGCCGCCGCCAACAACATTGAC
TTTGATGTCGAAAGATTCGGCGTTTTCAGTCAGAACCAAGGGTTGGCGAACAACCATTCG
GCTGGTTTCCCGTGCGAAGAATTCGTCAACGGGACGACCGTTTACGATGATTTGACCTGT
ACCTTTAATCAGGAATACACGAGCCACTGAACTTTTGCGGCGGCCTGTGCCGTAGTAGTA
TTTACCGTTCATGTCGCGTCCTTATTTCAGTTCCAAAACTTTGGGTTGTTGCGCAGCATG
GGCGTGTTCCGCACCCGCATACACTTTCAGTTTTTTAATCATGGCGTAACCCAGAGGACC
TTTGGGCAGCATACCTTTTACAGCTTGTTCCAAAGCGCGGCCCGGGAATTGCTCTTGCAT
TTCGCGGAAGGTGCGTTCGTAGATACCGCCTGGGAAACCGGAATGGCGGAAGTATTTTTT
ATCTTCGAATTTGGCACCGGTTACACGCAGTTTGTCCGCATTGATAACAATGATGTAATC
GCCGGTATCGACGTGGGGGGTGTATTCAGGTTTGTGTTTGCCACGCAGACGGCTGGCGAC
TTCGGCCGCAACGCGACCCAAGACTTTGTCTTGGGCATCGATGACGAACCATTCGCGCTT
CACCTCGTGGGGTTTCGCTGAAAAGGTTTTCATAGTGGAAATCCAGATAGATATAGAAAG
TTGTAAATTTTAAAGACAGGATTCGATTTTGTCAATCGCATTACCGCGTTACGGAAGGAT
TTTCCGGATTTCGGCAGACTGCATACTGCTTTTTCGGGCGGGGCGGCGGCCAATGTGAAA
AACCGCATCGTTGCGATGCGGTTTTGAATGGGAATCCCCGCGAGAGCCGTTTCGGCCGAA
TCCGCTTGAACCTTGCTGACAAGGCGGCTGCCTCGGGTAGTTTCGGGTGCGTCCGCAAAA
GGACGCTCGCGCCCACTACTGCTCCCGGCAACCTTAAGCGAACTTATTGGTTCAAAGGAA
TATATGCCTTCGCGGACACCGCAGGGAAAAAGGGGTTATTCCTGCCGCCAAGCGGGATAGT
GCTTTTTGGCAGGCGTTGTCCATATCGGCTATTTTACGCGCAAAATCGCCGATTGCCAAA
TCGCCGCCGTTCAGGGAGGTTTTCAACAGGTCGTGGACGACGTTGAGCGCGGCCATAATG
ACGATTTTTTCGCTGTCCGCGACGCGTCCGCCTTCGCGGATGGCTTCGGCTTTGCCGTTG
AGCATTCCGACTGCCTGCAACAGTGTGTCTTTTTCTTCTGCCGGCGTGTTGACGGTCAGC
CGGGCGTGCATGACTTCGATGTGGACTTGTTCGATGTTCATCCTTTAATCCTTATTGCTG
CGTTTCCTGCCATTGGGGGAGGCGCGCTGCCAGTGCGCTGATTTTTTCCCTGCTCTGTTC
GAGCAGGCTGCGGTATCGTGTATTTTCTTCTGTCAGGCTGTCAATTTTGTTTTGCAGGTC
TTCTTTGAGTTTGCCGACTTGGACGAGCAGGGCTTCGCTGAGTTCGTCGACGGCGGTTTC
GTGTTCGAGTTTTTTGCCGCTCGTGCGCCCGTTTGAGTTCGGCGACGGTTTCTTTGAGGCG
GCGGTTTTCGCTGACGAGGGTTTCGAATTTTTGTACCAACGTATAAACGCTGCTTTCGAG
TTTTTCGATATTTTGTTTCATAACCTTACCTGTCCGTATGCCGTCTGAAGGCTTCAGACG
GCATCTGTCTGTTGTTTATTCAAAACGCGCGCTGCGTTCCATCAGTCTTTCGACAACCTG
TTGCGGGGTCATTTCTTTGCGGATGAGTTGCAGCAGAGTTTGGGTAATCGGCATGTCGAT
TTGGTACTTACAGGCAGTATTGAAGACTTCTTCTATCGTGCTGACCCCTTCGGAAACGTG
TCCGATTTCGACCAGCACCTGATGCAGTTCCTTGCCTTCTGCCAAACCCAAGCCGACGCG
GCGGTTGCGCGAAAGTGCGCCGGTGCAGGTGAGGATGAGGTCGCCGATGCCTGCCAGCCC
CATCATGGTTTTGGGCTGTGCGCCCATTGCGGAGGCAAGGCGGGTGATTTCAGCTAATCC
GCGCGTAACCAGTGCGGCACGGGCGTTAAGCCCGTACTCTAGGCCGTCGGACAATCCGGT
GGCAATCGCCATAACATTTTTTACCGCGCCGCCAACCGCCACGCCGATAACATCGGTACT
GCCGTAAAGCCTCATGACGGTCGTGTTGAGCTGCGGTACGAGTTCTTCAATCCACTCTTG
GTTTTCGGAGGCAAGGACGACGGCGCAGGGCAGTTGTTTGGCGAGTTCCTGTGCAAAACT
CGGGGCCGGAAAGTACGCCGATTTTCTTATTGTCGGGCAATACTTCTTTCAAGACTTGAAA
GGTCAGCAGCCCGGTATCCTGCTCGAATCCTTTGCAGGCGGCGAGGACGGGGAGGTGTCC
CGCGCCGTACTGTTTGAGCAGCTCTGCGCTGCCTTCTCAATCCGGCAACGGAGGTTACGAT
AAGGACAAGTCCGCTGTCTTTGAGCGCGTCTGCCAAATCCGCACACACTTCCAAGGTTTC
GGGAAAGGAAAAGCCGGGCAGTCCGCGTTTGTTTTCACGCGCTTCCTGCATTTGACGGAC
TTGGTCTGCGTTGCGCGTCCACAGGGATACGCGGTTGCCGTGTTGGGAAAAATGCAGGGC
GAGCGCCGTACCCCACGAACCTGCGCCGATAACGGTAATTTTCATTGGTCGTCTTTCAAC
ATATCACTGCCGTTCACTTTAAAACAATCGGTGTTTCTCTGCAAGTGCGGTCAGGGAAAT
GCCGTCTGAAAGGCGTTCAGACGGCATTTTGCCCCGATGCGGCACTATCAGCCTGTATTG
CGCAAACCTTGCGCCACGCCGTTGATGGTCAGGTGCACCATCAGAAGGGCGTGCGGATTG
TCGGGTTCTTTACGCAGGCGTTTGAGCATGGCGACTTGCAAACCGTTGAGCGCGTTCAGG
TAGGGAATCCTCAAAGCGAGCGAACGGGCGAGGCTGCGGTTGTCGCGCAAAAGCTCTTCG
GTTTGCAGTAGGTCGAGCAGTGCTTTGCGGCTGCGGCGGTATTCTTCCTTAATCATCCCG
AAGATGATTTTTGCCTTATCGGGCGATTCGCTCAAGCCGGCATAGTTTTCCGCGAGGGTG
```

Appendix A   -486-

```
ATGTCGGTTTTCGCCATCACTTGTTCCATATTGGAGAGCATGGCTTGGAAGAACGGGTTG
CTTTGGGCGTGTTCGCGCAGGGCGGCGAGCGTTTCGGGTTTGTCTTCGCACAAGGTTTCC
ACCGCGCTGCCGAAACCGTACCAAGCCGGCAGCATGAGGCGGTTCTGCATCCAGGAAAAT
ACCCACGGAATCGCGCGCAAGTCCTGAATCCGCGCCAAGGTTTTGCGGCTGGCGGGACGG
CTGCCTAGGTTGAGGGTGGCGATTTCCTGAATCGGGCTGGTTTGCAGAAAGTAGTCGATG
AAGTCGGGATGGGTAATCAGTTCGCGGTAGTATTTGAACGATACGTCCGACAATGCCTGC
ATCAGTTTGGCATCAGGGTCTTTTTTATCCGGCAGGATGCTGGCTTCCAAAGTCGCGGCA
ACCAAGGTTTCCAAGTTGCGTTGGGCATTGCCGGGGTCGGCGTATTTGGCGGTAATGACT
TCGCCTTGTTCGGTGATGCGGAATTTGTCCCGCCACGCTGCCGCCGGTTGGGCGAGAATG
GCTTGGTAAGAAGGGCCGCCGCCGCGACCTACGCTGCCGCCGCGTCCGTGGAACAGGCGC
ATACGGACATCGTATTTTTTGAAGAGTTCGACCAAGCCCAATTCCGCCTGATAGAGGCAC
CATGAGCTGGTAACGTAGCCGCCGTCCTTGTTGGAGTCGGAATAGCCGAGCATGATTTCT
TGGATGTTTCCACGGCTTTCGAGCAGTGCATCGTACCAGTCGAGGCGGAACATGGTTTCC
ATGACCGGACAGGCGTTTTCCAACGCTTCAATGGTTTCAAACAGCGGCACGATATTGATG
CGGCTGTGCGGTTTGCCGTTTTCCACCGCCAACAGGCCGGTTTCTTTCAGCAGCAATGCC
AAGGCGAGCAGGTCGCTGGGTTGTTCGCAGTTGGAAATAATGCTTTGTGTTACGGCATCT
TCGCCAAATTCGTCTTTGATTTTGCGCGCTTCGTTGAAAATTGCCAGTTCGTGGCGGGTA
TGGTCGCTGTATGTGATAAACGGGCTGTACAGAGGACGTTGATGGCTCAATTCGCGCAAC
AGGGCGGTTTGTTTTTGCTCTTCGTTCAGGCGGTTGTAGTCTTCCAAGCCTGCGTGTTGG
AAAAGCTCGGCAACCACATCGGCGTGTTTGCCTGCGTGTTGGCGCAAGTCGAGCGGCATC
ATGTGAAAGCCGAACACGGATACGGAACGGATGAGGTCTGCCAAACGGCCTTCGGCAAGC
AGACGGCTGCCGTTGTCGATAAGGGAACGTTGCAATTTTTTTCAAATCATCCAGAAACTCT
TGTGCCGAAGCATAAGGCTCGAGAAAGCCGAATTTGCAGCCCATACCCAAACCGAGCGCG
CGCGCTTTGCCCATAGCGCGCGCCATAATGTAGGCGATGGCGCGGCGGTAGGGTTCTTCG
GCGCGGGCGATTTCTTCGTCGGGCGATTTGTCGGACAACGCCGTTACATCGCCGTTGACT
TTGACGCGGCGGATGGAGAGCGGCAGTTCGCGGTAGAGTTTGTCGAGTTCGCCGCGATAG
AAGCGGAACACGGCATCGGCGTGGCGGCGGAAGGCAAAGCGCAGGGTTTCGGCAGAAACA
AACGGATTGCCGTCGCGGTCGCCGCCGATCCAGCCGCCGATTTTGAGGATGTCCGGAACG
CGGACGCCGGGATAGGCCGTCTGAAAGTCGTGTTCCATCTTGCGGTAGAGCTTGGGCAGG
GCTTCGAAAAAGCTCATCGGGAAGATGGACACGCCGTTGTTGATTTCGTCGTTGACGCTG
AGTTTGTGGCGGCGCGTTTCGCTGGTCTGCCACAAGCCCAGCAGGATAGTGTCGATTTCG
CGGCGCAGCCGTGCCAGCGCGTCGGCATTGGTGCAGCGTTCGCGTTGCGGCAACAGTGCG
CGGATGCGGCGGTTGAAGCTTAAGACGGTTTGGCGTTGCACTTCGGTCGGGTGCGCGGTC
AAAAACGGCGGTAACGGACGTATTGTCCAACTGCCGCTGCACCGATTTGCCGTCGGCTTTC
CCCGCTTTGAGCCTGCGGACGGTTTCCGTCAGGCTGCCTTCCGCGCCGCCGTCCGGCT
TCTTCGTGGATTTGGCGGCGGCGTTCGTGGTGCACGTCTTCGGCGATGTTCAAAATCTGG
GCGAACAGGCCGCAGGCCAAGGTTAAATCGTGGGTTTGTTGTTCGTCCAATTGCGGCAAT
ACTTTTTCAATCAATGCCGCGCTGTCGTCGGAAGTGGACAAGAGTTTGACTGTTTCGACA
ACCAACGGCGAGGCTTCTTCGTGCAGGAGGTTGAACAGGGATTGTTTCAGAAATTCCGCG
TCCGCCGCCAAAGCCGCGTCCTTTGGATTGTTCAGAATATGCAGTTGCATGATTTTTCTC
TCTCGTCTGCCGTAAATATTGTAAATGTACCCCAAATGCCGCATCCGTGCCAAACCGTTC
ACACTTTAACCGCCCGTGTCCCGAAATGCCGTCTGAAGTTGAACGCCGCCCGACGGCAGC
GTTACAATCGCCCGCAACTGTTTTTTTCCGAACATCATCATGACCACGACCGAACACGAC
AACGACGATGCATTCCTGCTGCGGTACAGCCGCCACATCCTCTTGGACGAAATCGGCATC
GAAGGGCAGCAGAAACTTTCCGCCGCGCATATTTTGGTCGTCGGCTGCGGCAGGTTGGGT
GCCGCCGCACTGCCCTACCTTGCCGCTTCGGGTGTCGGCACGCTGACCATAGCCGATTCC
GACACGGTCGAACTGCACAACCTGCAACGCCAAGTCGCATTTGACGAGGGCGATGTCGGC
AAACTCAAAACCGAAGCCTTGGCAGGCCGCCTGAAACGCATCAACCATACCGTCAACGTC
CGCGCCGTCAACGAAAAACTCGACGGCTGCCGCCTGACCGGTTTGGTTCAAGCCGCCGAC
ATCGTTTTAGACTGTTGCGACAACTACGCCACGCGGCAAGCCGTCAACCGTGCCTGCGTG
CAAACGAAAACACCGCTGGTTTCAGGGGCGGCGGTACGCTTTGAAGGGCAACTTGCCGTG
TACCGTCCCGACTTGCCCGACTCGCCGTGTTACGCCTGCCTGTTTGACGGCGGATCGGCT
TCAGACGGCATCTGTTCTCTCTTCGGCGTGTTCTCGCCGCTGGTCGGCATCATCGGCAGT
ACCCAAGCGGCGGAGGCTCTGAAAATCCTGCTGGATGCGGGCGAACCGTCGCACGGCAGG
CTGGCCGGTTTACCGTGCCTTGGAAGGGGGCTGGCAATATTTCGACCTGCCGCGCAACCCT
GAATGCCCGGTTTGCGGCACAGCGCGATAAACCCTGCCGCCGTTTCAGACGGCATCCAAA
CGGATGCGGCGGAACGGTTTTAAAAAATTTAAAAATTTACATTTCTTTGCAAAAAAAAAAA
AAAAAAAATAAACTTACCTTATAATTGCAATTGTTTTAGCAATGTCTGTTTCGCAGACTC
ATTGAGTAAAACGTTTTCCCCGTAATGTGTTTGGCCGTCTGTCCCCTTTGGGTTCGGACG
GCTTTTTTTTGGCTGTGTTTGAATACCCGGTTGGTTTTATCTGTTTGCAGCGGGGGAAGC
CGCTTATTTCCGTTCGGGCGGAAAACGGTTCCATCGGATAAAAGGCATTTTGTCCGACTG
ATTAAAGTTATAGTGGATTAACAAAAACCAGTACAGCGTTGGCTCGCCTTAGCTCAAAGA
GAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTC
TGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCACTATATATCTTAGGTTTGCATC
GGCGGAATATTCAAACACAGCCTTTTTTAAGGAAATCCGGATACGGCGGCGCATCAATAA
TGCGGCGGAATCTCGTCGCGCAGGGAATACGGCTCTTGCGCGTCGGGATTCCTGTCCTGC
ATTTTTTGATACAGCAGCCTCAACTGAGCCTGCTGCAAATCCAGCGTCTGCCGCAATTCC
GCCACCATCGCGTTCAGGCCGGCCGATTACGTCCTCCTGAAGCGCGGATTGGATTTCCAGT
TCGACAATACGGCGTTCCAACTCTTGAACCGCGTCCATTTACAGCACCATCGCGGCAATC
CAGCCGGCAATCAGCAGCGGGATGTTGTAGTGGATGAAGGTCGGGATAACGGAATCGCGG
ATGTGGTCGTGCTGCCCGTCGGCGTTCAGCCCCATCGTCGGGCCCAGCGTGGAATCGGAC
GCAGGCGAACCGGCATCGCCCAACGCCCCCGCCGTGCCGACAATGGCGACGGTGGCAAGC
GGCGAAAAACCCAAACCGACACACAAAGGCACATAAATCGCGGCAATAATCGGCAAAGTG
GAAAAGGACGAACCGATGCCCATCGTTACCAAAAGCCCCACCACCAGCATCGCCAATGCC
GCCATACCTTTGCTGTTGCCGAATATCGCCATACTGCTTTCCACCAGCGGCTGAATATGC
```

Appendix A   -487-

```
CCGGTCGCATTCATCACGGCGGCAAAACCCTGCGCGGCAATCATAATGAAGCCGACCATC
GCCATCATCTTGATACCTTCGCCGAATACGTCGTTTGCCTTGTCGCGGTTAATGACCCCC
AACATCATAAATACGGCGAAACCGAGCATCGCGCCCAACACCAGCGAGTCTTCATACATC
AACTGGATGGCAAAGCATACGGCAATGGCGACGGCGGCCAGGCTGCGGTAGGCGGAC
GGCTGCGGACGGTTTGCCGCATCGGCGTTGCCCGCCGTATCGGCATTGTTGCTTTGGTAC
AGGCGCGGTTTGCGGTAATGGACAAACGCCAGCAGGAGTCCGGCCAGCATTCCCAACGCG
GGAATCGCCATTGCCGCCATCACGTTAATGTTTTTCACATCAAGCTGCGGCGCGGCGGAA
TGGATGTTGCCCAACAGGATTTCGTTCAAAAAAATCGCGCCGAAGCCGTAAGGCAGGAAC
ATATAAGTCGTAACCAGCCCGAAAGTGATGACGCACGCAATCAGGCGGCGGTCGATTTTC
AGGCGGTTGAACACCAAAAGCAGCGGCGGAACAATCATCGGGATAAAGGCAATGTGGATG
GGGATGATGTTCTGACTCATCATGCCCATCACAAGGATGATGGAAAGCAGCAGCCATTTG
ACCGCGCCCTCGCCCGAACGCACGCTGTCGGGCATACCGCCCCGGTTCAGCTTGCGGACG
ACCGCGCCGGCAAGCTGCTGCGGCAGGCCGGAATGGGTAATCGCCATTGCAAACGCGCCG
AGCATCGCATAAGAAAGCGCAATCTTCGCACCGCCTTCCAAACCTTTGTTGAACACGGGG
ATAATCCCCGCCTGACTGACCTGTCCCGCCGCATCGGCAATGTTTTGCAGCGGCATACCC
GCCACCGCGCCGCCGACAAACGCGCCGACCGTCAGGCTCAATACCACGTGCACGCGCGAC
AGCGACAGCACCAGCATAACGATTACGGCAACTACGACTGCATTCATTGTTTATCGCTCC
AAACCTATAAATGTTTACATATCGAAACACATCATAACCCAATAACGGGAAACCCGCCAA
TTTTGCAAACAATTATTTCAAATGCTTCATATACTTCCCCAGCGTAACCCTGTCCAAACC
CGCCAAATCCGGCAGGGTTTCCACTCCTGAAAAACCATTCTCCGCCAACACGCCGCGCAC
CGCCGCGCCCTGATCGAAACCGTGTTCCAGCAATAAAAAACCGCCTTCCGCCAAACGGTC
GGGCGCGCCTTGCGCCAAGGTGCGGATGCAGCTTAGGCCGTCTGAAAAGTCGGTCAGCGC
GATTTGCGGCTCAAACCGCAAATCGCCTTGCAACAAATGTTTATCGCCGTTTTCGATATA
GGGCGGGTTGGACACGATGATGTCCCATTTCCCTTCAGACGGCATATCGGTGTCGAACCA
CGAACCGTGTGCAAATTCGACCCGCGCGCCCAAATCCGCCGCATTTTTCCGCGCCGTTTC
AAGGGCGGGCGGGCTGATGTCGGATGCGCGCACAAACGCATCGGGGCGTTCGAGCGCGAC
GGTTACGGCAACCGCGCCGCTGCCCGTCCCCAAATCCCACACGCGCCCGTTTTCGGGCAG
GCGCGCCAATACGGCTTCGACCAAATGTTCGGTTTCGGGGCGCGGAATCAGCACGCTCGG
ATTGACTGTAAAGCGTCTGCCATAAAATTCGCGCACACCTAAAATATAGGCAACCGGCTC
GCCGTTCAGACGGCGTTGCGCCAGCCTGTCCGCCCGCTGTCGGACTTCGTCCGGCATTTC
TTCCCCGCCCCGCGTCAACAACTGCACGCGCGTATATTCCGAAACATATTGTAGCAGCAT
TCTTGCTTCATTTTTAGGCAGTTTTGACAAGCCCAACCATTTATCAAACGTCATTTTTAT
CCCGTCTGCCGCTGATGCGGCTTTTCTTTCCTTATTCTTTCCGGCAAACGTACCGATGGT
GGCAACCGCAAATGCGGCATACCACAAATAAAATCCTGCACCGTAGCGCACAATATCCGA
TGTATTCCCTGCTTCATCGACGTATACGGCTTTCACACTGAAAGCCACCAACGCCAAGCC
CCAAAGTGCCGCATGGACAGGCACGACCTTCTTCCGCAACGCCAGCAAAACAATGGCCGC
CAACCAAACATAATTCGCATAGACCGCACAATACCTGATATCCAAAGAAGCAAATATCGA
CCCCAAAATCAAAACGGTCAAAACCCTCCATGCTTCCATGATTGCCCAAATAAAATGCAAC
ATTGGATAAAGACGCTATCCACAGGGCAACCGACACCAGCAACATCACTATGGGAAAACT
TGGTTTCCGATTCTGTTCCTGCATGGTTTTATCCTAATGTAAAAGGCCGCCTGAAAACCT
TTCAGACGGCATCGTGCCGGATTCCGCGTCAGATTGCGCTGCCGCCGACGGTCAGTCCGG
CATCAATCCGCAAAGTCGGTTGCCCCACGCCGACGGGGACGCTCTGCCCTTCTTTGCCGC
ACACGCCGACACCGCTGTCGAGCGCAGTATCGTTGCCTATCATGGAAACGTGTTTCAGCA
CTTCGGGGCCGTTGCCGATGATGGTCGCGCCTTTGACGGGATATTGCAGCCTGCCGCCTT
CCACCCACCACGCTTCGGACGCACTGAACACGAACTTGCCGCTGGTAATGTCCACTTGTC
CGCCGCCAAAGTTGACGGCGTAAATGCCCTTGTCGATGGACGCGATGATTTCTTCCGGCT
CATAGCTGCCGTTTTCCATAAAGGTATTGGTCATGCGCGGCATAGGGGCGGAAGCGTAAC
TTTCGCGGCGGCCGTTGCCGGTGGACTGCGTACCCGTCAGGCGGGCATTGGTTTCGTCCT
GCATATAGCCGACTAAAATGCCGTCTTCAATCAATACGGTGCGGCGGGTTTCGTTGCCTT
CGTCGTCGATGTTGAGCGAACCGCGCCGGCCGGCAATATCACCCTGATCGACGACGGTAA
CGCCTTTGGCGGCGACGCGCTCGCCTATTCTGCCGGAAAAGACGCTGGTTCCCTTGCGGT
TGAAATCGCCTTCCAAACCGTGTCCGACCGCTTCGTGCAGCAACACGCCCGGCCAGCCGT
TGCCCAAAACGACGGTCATTTCGCCGGCGGGCGCGGGGCGGGATTCGAGGTTGGTGAGTG
CCTGTTTGACGGCGGCATCGACAAACCGATGAACCAAGTTTTCATCGAAATAAGCCAAGT
CGTAGCGTCCGCCGCCGCCCGCGCTGCCCTGTTCGCGGCGTTCGCCCTGTTTGGCGATAA
CGGTAACGTTCAGGCGCACCATCGGGCGGATGTCGGCGGCGTGTTTGCCGTCCAGACGGG
CGAGGTAAACCATATCGTATTCGCAGGTCAAACCGGCCATCACTTGCACGATGCGCGGAT
CGGCGGCTTTGGCGATTGCTTCCACTTTGTTCAACAGCGCGACTTTGGCGGCGGAATCGA
GGCCGGCAATGGGGTCGGACGCGGAACAAACCGGCTTGCCGCGCGTTTCAGACGGCATTT
TGGCGGACACCTTGCCGCCTGCCGCCCCAATCGCGCGGACGGCGCGGGCGGAACGGTTTA
TCGAATCGATGCACAGGCTGTCGGCGTAGGCAAAGGCGGTTTTGTCGCCCGAAACGGCGC
GCACGCCCACGCCCTGATTGATTTGGAAGCTGCCCGATTTGACGATGCCCTCTTCCAAAT
GCCAGCTTTCATAAGCGGTGCGCTGGCAGTAGATGTCGGCGTAATCGACGTGGTGCGCGC
CGATGATGCACAGGCTTTTGGCGAGCAGTTCGGGGGAAAGGCGGTTGGCTTCGAGCAGCC
GCGCCTGTACGGCGGAATAGGTCGGATGCATAGTGTCGGCGCATAAAAAATCAGGGGCTT
GATTATACGGCATTTGTTATATAGTGGATTAACAAAAAACAGTACGGTGTTGCCTCGCCT
TGCCGTACTATTTGTACTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTTGTTAATCCAC
TATAGAAATGCGCCGTGCCGCCTGAAATGTAAGATTTTTGCCAACGCCCCCTGCTTTTGT
GTACACTTAAAGCTCCTTGTCGGAGTGCCGCCGCCGGGCGGCTGAGATTGCGAAAGCAGA
ATCCGTAGAACCTGTCGGGGTAATGCCTGCGTAGGAAACAAACCGTCAAATGCCTTATCA
GGCTTCCGTTCCCTTTTCCGCACTTCCCCGCCCCATTTTCATGTTTTTTAAGGACTTGAT
ATGTCGGGCAATGCCTCCTCTCCTTCATCTTCCTCCGCCATCGGGCTGATTTGGTTCGGC
GCGGCGGTATCGATTGCCGAAATCAGCACGGGTACGCTGCTTGCGCCTTTGGGCTGGCAG
CGCGGTCTGGCGGCTCTACTTTTGGGTCATGCCGTCGGCGGCGCGCTGTTTTTTGCGGCG
GCGTATATCGGCGCACTGACCGGACGCAGCTCGATGGAAAGCGTGCGCCTGTCGTTCGGC
```

Appendix A   -488-

```
AAACGCGGTTCAGTGCTGTTTTCCGTGGCGAATATGCTGCAACTGGCCGGCTGGACGGCG
GTGATGATTTACGCCGGCGCAACGGTCAGCTCCGCTTTGGGCAAAGTGTTGTGGGACGGC
GAATCTTTTGTCTGGTGGGCATTGGCAAACGGCGCGCTGATTGTGCTGTGGCTGGTTTTC
GGCGCACGCAAAACAGGCGGGCTGAAAACCGTTTCGATGCTGCTGATGCTGTTGGCGGTT
CTGTGGCTGAGTGCCGAAGTCTTTTCCACGGCAGGCAGCACCGCCGCACAGGTTTCAGAC
GGCATGAGTTTCGGAACGGCAGTCGAGCTGTCCGCCGTGATGCCGCTTTCCTGGCTGCCG
CTTGCCGCCGACTACACGCGCCACGCGCGCCGCCCGTTTGCGGCAACCCTGACGGCAACG
CTCGCCTACACGCTGACCGGCTGCTGGATGTATGCCTTGGGTTTGGCAGCGGCGTTGTTC
ACCGGAGAAACCGACGTGGCAAAAATCCTGCTGGGCGCAGGTTTGGGTGCGGCAGGCATT
TTGGCGGTCGTCCTCTCCACCGTTACCACAACGTTTCTCGATGCCTATTCCGCCGGCGCG
AGTGCGAACAACATTTCCGCGCGTTTTGCGGAAACACCCGTCGCTGTCGGCGTTACCCTG
ATCGGCACGGTACTTGCCGTCATGCTGCCCGTTACCGAATATGAAAACTTCCTGCTGCTT
ATCGGCTCGGTATTTGCGCCGATGGCGGCGGTTTTGATTGCCGACTTTTTCGTCTTGAAA
CGGCGTGAGGAGATTGAAGGCTTTGACTTTGCCGGACTGGTTCTGTGGCTTGCGGGCTTC
ATCCTCTACCGCTTCCTGCTCTCGTCCGGCTGGGAAAGCAGCATCGGTCTGACCGCCCCC
GTAATGTCTGCCGTTGCCATTGCCACCGTATCGGTACGCCTTTTCTTTAAAAAAAACCCAA
TCTTTACAAAGGAACCCGTCATGACCCGTATCGCCATCCTCGGCGGCGGCCTCTCGGGAA
GGCTGACCGCGTTGCAGCTTGCAGAACAAGGTTATCAGATTGCACTTTTCGATAAAGGCT
GCCGCCGGGGCGAACACGCCGCCGCCTATGTTGCCGCCGCCATGCTCGCGCCTGCGGCGG
AAGCGGTCGAAGCCACGCCCGAAGTGGTCAGGCTGGGCAGGCAGAGCATCCCGCTTTGGC
GCGGCATCCGATGCCGTCTGAACACGCACACGATGATGCAGGAAAACGGCAGCCTGATTG
TGTGGCACGGGCAGGACAAGCCATTATCCAGCGAGTTCGTCCGCCATCTCAAACGCGGCG
GCGTAGCGGATGACGAAATCGTCCGTTGGCGCGCCGACGACATCGCCGAACGCGAACCGC
AACTCGGCGGACGTTTTTCAGACGGCATCTACCTGCCGACCGAAGGCCAGCTCGACGGGC
GGCAAATATTGTCTGCACTTGCCGACGCTTTGGACGAACTGAACGTCCCCTGCCATTGGG
AACACGAATGCGTCCCCGAAGGCCTGCAAGCCCAATACGACTGGCTGATCGACTGCCGCG
GCTACGGCGCAAAAACCGCGTGGAACCAATCCCCCCAGCACACCAGCACCCTGCGCGGCA
TACGCGGCGAAGTGGCGCGGGTTTACACACCCGAAATCACGCTCAACCGCCCCGTGCGTC
TGCTCCATCCGCGTTATCCGCTCTACATCGCCCCGAAAGAAAACCACGTCTTCGTCATCG
GCGCGACCCAAATCGAAAGCGAAAGCCAAGCCCCCGCCAGCGTGCGTTCAGGGTTGGAAC
TCTTGTCCGCACTCTATGCCATCCACCCCGCCTTCGGCGAAGCCGACATCCTCGAAATCG
CCACCGGCCTGCGCGCCCACGCTCAACCACCACAACCCCGAAATCCGTTACAACCGCGCCC
GACGCCTGATTGAAATCAACGGCCTTTTCCGCCACGGTTTCATGATCTCCCCCGCCGTAA
CCGCCGCCGCCGCCAGATTGGCAGTGGCACTGTTTGACGGAAAAGACGCGCCCGAACGCG
ATAAAGAAAGCGGTTTGGCGTATATCCGAAGACAAGATTAAAGCCGCCCGAAAGGACACC
TTATGACCTTCCCGCCCCTAAAATCCCCGCTCAAATTCTACGCCGTCGTCCCCACCGCCG
ATTGGGTGGGGCGCATGGTCAAAGCAGGTGCCGACACGGTGCAACTGCGCTGCAAGGCCC
TGCACGGCGATGAATTGAAACGCGAAATCGCCCGCTGCGCCGCAGCCTGTCAGGGCAGCC
GTACGCAGCTTTTCATCAACGACCACTGGCGCGAAGCAATCGAAGCGGGCGCGTACGGCG
TGCATCTCGGACAAGAAGACATGGACACCGCCGACCTTGCCGCCATCGCCGCCGCCGGTT
TGCGCTTGGGTTTGAGTACGCACTCCGTTGCCGAACTCGACCGCGCCCTGTCCGTACACC
CTAGCTACATCGCCAGCGGCGCGATTTTCCCGACCACGACCAAACAAATGCCCACCGCCC
CGCAAGGCTTGGACAAACTGCGCGAATACGTCAAACAAGCAGGCGGCACGCCCGTCGTCG
CCATCGGCGGTATCGACTTGAACAACGCCCGAGCCGTACTCGCCACCGGCGTTTCCTCAC
TCGCCGCCGTCCGCGCCGTAACCGAAGCGGCAAATCCCGAAGCGGTGGTTAAAGCGTTTC
AGGCTTTGTGGGATGGATAAAACCGAAAGAAGAAAATTCAATTGCCGTGTAGGCAAAACT
TAGCCCGTTATCGCAAACATACTTAACTTTAAATGTGGCATATCATCAAATTCCGTCATT
CCCGCGTAAGCGGGAATCCGCCTTAAAACTTGAGAAACCATCATTTGAAAAACAGTTTCC
GAATTTCAAAAATGGATTCCCGCCCGTGCGGGAATGACGGCAACCGGTCAGTTGCGTATC
AAAAAATAAAGTAATTCGGCTAGATATAGTGGATTAACAAAAATCAGGACAAGGCGACGA
AGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGA
ATCGTTCTCTTTGAGCTAAGGCGAGGCAACACCGTACTGGTTTTTGTTAATCCACTATAA
ATACAGAAACATCGAGAAACCATGAACATCATCTTAAACGGCGGACCCGCCGAACTTCAC
GGCACGACCGTTGCCGACCTCATCGCCCAAACCGCGCCGCAAAAGCCCTTTGCCGTGGCG
GTCAACACCGTTTTCGTCCCCAAAGGCGCGTATGCGGAAACGGTTTTAAACGAAAACGAC
AAAATCGATATCGTGCGGCCGGTGGTCGGCGGCTAGGCGGTTTTGCCTTTTCAGACGACC
CCTGTCCCCAAAACAACGTTATGGTGGATTAACTTTAAATCAGGACAAGGCGACGAAGCC
GCAGACAGTACGGATAGTACGGAACCGATTCACTTAGTGCTTCAGCACCTTAGAGAATCG
TTTTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATACAAAG
GAACCCATTATGCTCACCCTATACGGCGAAACTTTCCCCTCGCGGCTGCTGCTCGGCACG
GCTGCCTACCCGACCCCCGAAATCCTCAAACAATCCATCCAAACCGCCCAGCCTGCGATG
ATTACCGTCTCGCTGCGCCGCGCGGGAAGCGGCGGCGAGGCGCACGGTCAGGGGTTTTGG
TCGCTGCTTCAAGAAACCGGCGTTCCCGTCCTGCCGAACACGGCAGGCTGCCAAAGCGTG
CAGGAAGCGGTAACGACGGCGCAAATGGCGCGCGAAGTGTTTGAAACCGATTGGATAAAA
TTGGAACTCATCGGAGATGACGACACCTTGCAGCCGGATGTGTTCCAGCTTGTCGAAGCG
GCGGAAATCCTGATTAAAGACGGCTTCAAAGTGCTGCCTTATTGCACCGAAGACCTGATT
GCCTGCCGCCGCCTGCTCGACGCGGGCTGTCAGGCGTTGATGCCGTGGGCGGCCCCGATC
GGCACGGGTTTGGGCGCGGTTCACGCCTACGCGTTGAACGTCCTGCGCGAACGCCTGCCC
GACACGCCGCTGATTATCGACGCGGGCTTGGGTTTGCCCTCACAGGCGGCACAAGTGATG
GAATGGGGCTTTGACGGCGTGCTTTTGAATACTGCCGTTTCCCGCAGCGGCGATCCGGTC
AATATGGCACGCGCCTTCGCCACTCGCCGTCGAATCCGGACGGCTGGCATTTGAAGCCGGA
CCGGTCGAAGCACGCGACAAAGCGCAAGCCAGCACGCCGACAGTCGGACAACCGTTTTGG
CATTCGGCGGAATATTGAAAAAGGCAGCAAAAATGCCGTCTGAAGGCTTCAGACGGCATC
GCGGTCCAAAACGGCGGCGGCCTGAAACGGACAAACCGCCATTCCCCGGCATCACGGCTT
TGTCGGAAAAAATGGAAAAACCGGCCGGAAAACCTTGCCGCCCGTCCCGATGCCGCAACC
```

Appendix A

```
AACGAAACACTCGGCCTCCACGGTGTGCAGGCTGCCGCGCAAGCCCTAAATACGGCAATA
GAAGAAGCGTTTTGTTGTTGTTTGAATACACTTAAAAATACCTAAAGCCGTCCGTAAGCC
TTCATCCGCAACGGTTTTACCGCTTTCGCATCCCCGAATCCACGCTCAAACACCCCCGAA
TGACAACCCTGTCCGCGCCAAATCGGACGGATGTTCAAACACGGGCAACCTTATTTCCGT
CAGGCACGAAGCCCTCAGCTATGCCTGCCGACCCCGATTTGTCCGACACAATGAAAGTTT
GCCGACCCGAATCACAAACATCGGCGGACAGGTTAATTTGTTTATTTTTCATCGTATTAC
AAAAAATCTGCATTTATTTTTAAATTTTTATTGATAATTATTATTATTAGCGTATAATCA
AAACCACTCGGAAGCCGTCCGTTCCGAACCATTAAACACCATATTTCCCCATCATCACTT
TCACACTTGGAGTCGGCATATACGAGACATACATTCCCTTTTTATATATCAGATACTCAA
AACCGAAACGCCAAACCCACCTTCGCGGTGGGTTTGGCGTTTATCGTCCGGCTTTCGCGC
CTATTTGCAAGACTTGAGGTTCAGTTTGCCGTATAGGGACGTGATTTTACGAATTTCGTC
CGCATCGGCGGCATTCACGCCGGTAAACAAAACCGTCATACGCGACACGCTCAAAGAATC
GTCCTGCCTGTCGGCTTCGGCAAAGTGTTCGACAATATGCGCCCCGCCGAATCCGGCGCC
GGCAAGCCGGTTTTGCAGGGCTTGGGCGTTTTCCCGGCTGTTGCCGACACCCAAACTCAA
TGCGCCGTCAAACGGTATGGGGGTTGAAACCTTTGGCAGACAGCTCCGCCGCCTGATTTTC
GGCATCGGCGGAAACGGGCAGGACGACGCGGTAGGTTTTGTCGGCAGGTTTGGCTTGGGC
GGTGCGTTTTTCGACGCTCCTGCTGGCAACGTGCGACCATTTGCCCAAAAGTCCTTTGAT
GCGGTGGTAGTCATCTTCGTCCATCGTGAGGCTTGCCTGCGCGGCGCATAAGGCATCCGC
CGCGCCGTTTTCGCGTTCCGCCTGCGCCTTTTCGGCGGCGAGTTTTTCGCGGCGGGCTTT
TTCTTCACGCTGTTTTTTCTCTTTCAGTTTTTTCTGTTCCGCTTCTTTTTTCAAGCGCAA
CTGCTCCGCCTGTTCTTCGCTCAGAATGTCGCCCTGTTTGAGCAGTGCGCCTGTATCCGA
TTCAGATGCCGCCTGAACGACAGGACCGGATGCTGGAATATTCCGAACAACCGGCATAGT
TGGGGCAACTGGTTGAACCTGCAAATTGTTTGCGGCATTCTGTGCCTCCGGTATTCTGCC
GGCCTGTTTCAGTGTCAGTTTGTAACCTACCGTACCGCCGAATACGGCAATATTAATCGC
AACCAAAAGGATAAATAGCCATTTCATCTCTGTATTCCTTAAATATGTTCATATTCCCTG
CCTTCGGCGGCAATCATGTTCAACAACCCGTAAATGACGAGGTTGTCCGCCACGCGCACG
GTATTTTCCGCCAAAAATGCAGGCGGCAGGGCTTCGGCAACTTTTGCCGCGCCGCCGCCG
GTAATGATGACATCGACAGGCTTGCCCGCCCCGGTTTTTTCTTTCAAACGCCCGTGCATC
ATCATAACCGAGCCGCCAAACCGCATCCATCATGCCGCTGGCGACGGCATTGCCCGTTGTG
GTCGGGAAAGGATAACGCTTACCGGCGTGCCGGTTGAGGTTGGCGGTTCGGACGGCGAGC
GATTCTTTCATCAGGTGGAAACCGGGCATGATGGTTCCCCCGAGATAATGTCCGTCATCG
GTGAGCGCGTCAACCGTTACCGCCGTGCCGCAACTGACGACGACGCAGGCGTTGCGGCTG
AAGCGGCGGCTGCCCAAGGCGTTGAACCAGCGGTCGGAACCGTGTTCTTCGGGGTGGCGG
TAGTGGTTGCGTATGCCCAAAGCCTGTGCGGAAGACGGCAGCCACTCGATTTTTCGGGCG
AGCTGTTCCTGCACTTGTGCCTTTTTGAATTCTCCGCACAGCGCAACCGACGATGCCGG
ACATTTCCATCCGCCTTTTCCGCCCACTCCGCGCCCAAAGGCGACAAATCGCGGTACGGC
GCGCTACCGACGGTTGCGAACGTGCCGTTTTCCACCCACGCCCACTTGAGCCGGCTGTTG
CCGCCGTCCAACAGCAGAAAACGTTCCGAATCCCGCCGCTTCGGCACGGAAACCGGCCTG
TCGTCGGACCGCAGGCTGATTTCGCCGCTGACGACCGTCTGTTTGCCCTCTGCCGTTTCC
AAGTGCAAAACGCCTTGTCCGTCCACGCCTTTAACCGTGCCTTCGAACACGGTTTCGCCG
TCGCGCAACAGCAATACCGCCTTGCCGTGGTCGCGGTTGGCAGCCTGATATTCCGCCACA
AAAGGCGCAAATCCGTCCCGCGCATATTGCAACAACACCGCGTCAGTTCCACCAACAGC
GTTTCCAGCAGCACGGCGGCATCGGCATTGCCCCGCCGCGATGCCGTCTGAAACAGCGAT
TGCACGGAAGCGGCATTTTCTACTTCCTTGGGCAGGACAAAATTGATGCCGATACCGACC
ACGGCAACCGTTTTGCCGCCCGTCCTGACCGTTTCAATCAGAATGCCGCCCAATTTGTCG
CGTCCGACAACCAAATCATTGGGCCACTTAATCTGCACATCCAAACCTAAACGCGACAAG
GCGCGCCGACACGCCACTGCCGCAACAGGCGACAGCGAACCCAACTCATACTGCGGCCGG
TCAAACACCCAGCCAAAACTGAACATCAGACACTCGCCCAAACGGTGCGACCACTTCCGC
CCCTGCCGCCCCCTGCCCTTACTTTGCAGGTGGGTCACGCGCATATGGTTTTGTGCGCCTTG
TCCGGCGCAATCCGCGCCAATTCCAGTATCTCGTCGTTGCTGGACGCGCCACTCGTCGTTC
AATGCCGTCTGAAAACCCGACCTTTCCCCCAGCTCGCGCAAACCTTCGGCATCGAAAACC
GCCAATGGGCGCACCAGCCGCCAATAGCCGTCGTGTTGGCGCAACAGCCCGCGTATGTGC
GCCGGCATCTGCTGCCAAAAACCGTTGAGCTGCTGCGGCTTCATATCCGCCATACGCGCC
AGTTGCGAGACGTGTTGCGGCAAACCGTCGGCAAGCTCCGCCAACACCCGCCAGTGCGAA
AGCTTCAAAACCGTCATTTTCCGCCCTCTGCCGCACGGATTTTTGCCAAAGTCTTCGTTG
TCGAAGTCTGGTGCAGAAACGGAATTGAAAACACCTGACCGCCGCGCGCCAACGTTTCTG
CCGCACCGACAATCTTATCCGCAGCCCAATCGCCGCCCTTGACCAAAATCTCAGGTTTGA
CCGCCTCAATCAACGCCGCCGGCGTATCCCCGTCAAACCACGTTACCAAATCCACACTTT
CCAAAGCGGCGGCAACGGCGGCACGGTTCTCCAAAGGATTAACCGGGCGGTCACCGCCCT
TGCCCAGACGCCGCACCGAAGCATCGGTATTCAACGCCAGCACCAACGCGTCCCCCATCG
AACGCGCCTGCGCCAGATAAGTAACGTGCCCCCTGTGGAGGATGTCGAAACAGCCGTTGG
TAAACACCAGCGGGCGCGGCAACAACGCCAAACGCGCCGCCAACGCCTCGGGCGGACAGA
TTTTCGATTCAAAATCAGGGACAGACCAAGCGTCAACCATCAAAGCCTCCGACAAAAACC
ATAAAAGACAGAAAAACCCACATGATACAGAAGCATATGCGAAAGGCAAAGCCGGCGGCG
CGGACAGTACGCGCAAACGGGAAAAGACCCGTACCGAAAAGTACGGGCCTTTATCTGGGG
TGGCTGATGGGGCTCGAACCCACGACAACCGGAATCAACCGGGGCTCTACCAACTGA
GCTACAGCCACCATAAAAACGGTTTTCAATCAAATTCTTGGCACGCCCGACAGGAATCGA
ACCTGTAACCCCCGACTTAGAAGGTCGGTGCTCTATCCGGTTGAGCTACGGGCGCTCATG
CCGATTCGTGCTGATTGATTGGTCGGGGCGGTGGGATTCGAACTCACGACCCTCTGCTCC
CAAAGCAGATGCGCTAACCGGGCTGCGCTACGCCCCGACTTGAAGAAGCGAACTATACAA
CTCAGGGAAAGATGCGTCAACATTTATTTTCAAGCACACCAAGATGAAAAATATAGTTTTT
TGATTTGAAAAAATATTTAATCCGTCCAAACAGCCGTATTTTATTTCAGGGCAAATTTAT
TTTCGGCATCCTGCTGTAAAAACAAACGGAAAATGCGATAATTTTCAGCATTTTCTACCT
GTTTAACAAAAGGACGGATATGTCGGCACAACTGATCAATGGTAAAGAAGTTTCGCAAAA
ACGCCTGCAGGCGGTTGCCGAAGCGGTGGCGCAACGCCAACAGAACAATCTGCACACCCT
```

Appendix A   -490-

```
TGCCTGGCCGTGGTTTTGGTCGGAGGCGACCCTGCCAGCGCGGTTTATGTCCGCAACAAG
AAAACTGCCTGCCAAAAATGCGGCATCAAATCACTGTCTTACGAGCTGCCCGAATCAACA
TCGCAGGAAGAACTGCTGGCACTGGTCGACCGCCTGAATGCCGATTCCGAAGTGGACGGT
ATTCTGGTTCAGCTACCGCTGCCGAAGCACCTCGACAGCCAGGCGGTTTTGGAACGTATT
TCGCCGGATAAGGACGTGGACGGCTTCCATCCTTACAATGTCGGCAGGCTGGCGGTCAAA
ATGCCGCTGATGCGCCCGTGTACGCCCAAGGGCGTGATGACGCTTTTGGAAGCTTACGGC
ATTGATCCGAAGGGGAAAAAAGCGGTCGTGGTCGGCGCGTCGAATATCGTCGGCCGCCCG
CAGGCTTTGGAACTGCTGCTGGCGCGCGCAACGGTAACGGTCTGCCACAGCGCAACCGAA
AATCTGACAGACGAGGTTGCCGGAGCCGATATTTTGGTGGTCGGCGTAGGCATTCCGAAC
TTTGTCAAAGGCGAATGGATCAAACCTGGCGCGGTCGTTATTGATGTGGGCATCAACCGT
TTGGACGATGGCAGCCTGTGCGGCGACGTGGAATTTGAAACGGCAAAAGAACGGGCGGCG
ATGATTACGCCCGTTCCCGCGGCGTGGGTCCGATGACGATTGCCACATTGATGGAAAAC
ACCCTGCACGCGGCTTCACTGCACGATGCTTGAGCGGTTCTGAAGATAAAAATGCCGTCT
GAAAGGCTTTCAGACGGCATTTTGCCGTGTCCGTTTATTTGGGCAGCTTGACGACAACCG
TATCCGCCAGTATGTCGTAAAGCGTGCGGCGGTCGCGTTTGACCATAAAGAGCAGGACAA
AGTTGGCAAGGAATGCCAGCAGGTTGATGGCGTTTTCTCCGTTGTCACCTACTGCAAGAC
CGATAACGGCGGCAATAATGGCAACCAAAACCGACCATGCGATTTCGCGTACCAAAACCG
TGCCGACAAAACCGGGATTGCGGCCGTCGGTTTTCAACACACGGATTCTCATGATTTTCT
TACCCAATGACTGCCCGTCCCGGCTCATATAGTAGATTTGGATGACGGTGTACGCCAAAA
TGCCTGCCAGTCCTACCCAAAAGGAAGTCATGCCCAAAAGCAGCCCGAATATTTCTTCGC
CGCTGCCAATCCTGCCTTCATTCTTGATGGCGAAAGCAATCAGTCCGGCAAACGGCACCA
ACAAAACCAAAAAGGTAAACAATTGGTTCAGCAGCGCCGGCAAGTATCCGGTCGCCTGCAC
CGGCAATTCCGACTTCAATTTCCTGCCCGTTGCGGTTGTCGGATGCCGCGTCGGTGTAGT
CGTTTTTTTTCTTCCATATCCGTTCCTGATAATTGTTCTTAACTGACCCCGATTCTACCGC
CACGACACCGAAAACGCCAATACTTAAAGAAATCCCGATAAAGAACTTTACATTTTCCCA
ATACGGCCGTTAAAACGCTTCCTTTACGCCATACATAATTTTATTAACGATTTTTCCTCAA
GGAGCAACACAATGAAAGTAGGTTTCGTCGGCTGGCGCGGTATGGTCGGTTCGGTTTTGA
TGCAGCGTATGAAAGAAGAAAACGACTTCGCCCACATTCCTGAAGCGTTTTTCTTTACCA
CTTCCAACGTCGGCGGCGCAGCCCCTGATTTCGGTCAGGCGGCTAAAACATTATTAGATG
CCAACAATGTTGCCGAACTCGCCAAAATGGACATCATCGTTACCTGCCAAGGCGGCGATT
ACACCAAATCCGTCTTCCAAGCCCTGCGCGACAGCGGCTGGAACGGCTACTGGATTGACG
CGGCGTCCTCACTGCGCATGAAAGACGACGCGATTATCGTCCTCGACCCTGTCAACCGCG
ATGTCCTCGACAACGGTCTCAAAAACGGCGTGAAAAACTACATTGGCGGCAACTGCACCG
TTTCCCTGATGCTGATGGCTTTGGGCGGCCTGTTCCAAAACGATTTGGTCGAATGGGCAA
CCAGCATGACCTACCAAGCCGCTTCCGGCGCGGGCGCGAAAAACATGCGCGAACTCATCA
GCGGTATGGGCGCGGTTCACGCCCAAGTGGCGGACGCGCTTGCCGATCCTGCCGGCTCGA
TTCTCGACATCGACCGCAAAGTATCCGATTTCCTGCGCAGCGAAGACTATCCGAAAGCCA
ACTTCGGCGTACCGCTCGCCGGCAGCCTGATTCCGTGGATTGACGTGGATTTGGGCAACG
GCCAGTCCAAAGAAGAATGGAAAGGCGGCGTGGAAACCAACAAAATCCTCGGCCGCAGCG
ACAATCCAACCGTGATTGACGGCCTGTGCGTCCGCGTCGGGCGCGATGCGCTGCCCACAGCC
AAGCCATCACTCTGAAGTTGAAAAAAGACCTGCCTGTTTCCGAAATCGAAACGATTTTGG
CAGGCGCGAATGACTGGGTGAAAGTCATCCCCAATGAAAAAGAAGCCAGCATCCACGAGC
TGACTCCTGCCAAAGTTACCGGCACGCTGTCCGTCCCTGTCGGACGCATCCGCAAACTGG
GCATGGGCGGCGAATACATCAGCGCGTTCACCGTCGGCGACCAACTTTTGTGGGGCGCTG
CCGAACCGCTGCGCCGCGTATTGCGTATCGTGTTGGGCAGCCTGTGAGCCTGTTTGAAT
GGAAATGCCGTCTGAAGCCTGTTTCAGACGGCATTTTCCTTGCAACCCTGCCGGATAACG
CCCTGCCGGCACTGCCGACGTAAAAAATAAAGGATTCCATTTCCGGCGGTATGCGGCAGC
CCGACTTTATCCGAACCTGATGCGCCTGCACGTCAATGAAAACAGCCCGATTGCGGACTT
CCTGCTACAGCCGAAATTCCGATAAGGCAAGCGTTCACGCCAGCAACATTTCCTGCATCA
GCTTCATACCCCACTGCCAGCCGCCGAGCATGCCGTTCAAACTGCCCGAATGCGGGGAAA
CCAACAGGCGGGCGTTCCACAAATCCGCCTGTTTTTGCGCCCAACCGTGCGGCACGCCGC
CGTGTTCGGGTACAACCAATGCGGCACGGCAGGGACAGCGGACGCGTTGGAAAGCGTGTT
CCGCATCGTCGGGAAAAATATCGGGACGCTGCGGTACAAGGATGATGTTGGCAATTTTCT
TCCGTGTCAGGATGTCTGCCTGATACAGCCACGCCAAAAATGCGGCCGCGCCCGCACCGT
GTGCGACAACGGCGACGTATTTGCCGCGTATGCGTTCAAATGCCGTCTGAAGCCCTGCCT
GCCATTCCCCTATGCTTTGACCGGCCGACGCTTCGGCACATTGCACGACGGGATAACTGA
TCGCCCAACGGTCTATCCACATCTGATCCTCTCCGGCATCGCGTATCAGCCAAAGCGTCA
AATCTTCGAGTTCAAAACCCTGCATACCGCCCCGCCTATTTCAGCAGGTCCCGGAGGGTA
AAGGCGATGAGCAGCGAAGCGGGTACGCTCAATATGGCGCAGACGGTCAGGCAGGCAAAA
ATATTCACCACCCGCCGCCAGCCTTTCCAACCCAAACATTTGGACGCAATCAGCAGGCAG
GGCAGGCAAATCAGCAGCCACACCAACGCCCATATCGGGTTTGCCTTGGTCGGCGCAAGC
CAGCCTTGCATCCGCGACAACATAAATATCGCCCACACCAACATGGGCAGGATAAACGCA
GCGACGACCCATGCCGCGCCTATTCCTGTTTTTCCGTCCACATTCCAATCATATTTACCC
AAAACCTTATTCGGCAGCATAGTCATACTCCACGACCAGCGGCGCATGGTCAGAAAATTT
TTCATCTTTATAAACGTGTGCGGACACGGCTTTGGCAGCAAGTTCGGGCCGTAACCATCTG
ATAATCGATGCGCCACCCGACATCTTTCGCATACGCCTGCCCTCGGTTGCTCCACCAAGT
GTAGCCCGGCACATCGGGATAAAGCGTGCGCCACATATCCGTCCAACCGAGCTTGTGGAT
AACCTTGCCTATCCACTCGCGCTCTTCAGGCAGGAAACCTGAATTTTTCTGGTTGCCTTT
CCAGTTTTTCAGGTCGATGTTTTGGTGGGCGATGTTCCAGTCGCCGCAGACGACAATGTC
GCGCCCTTCGTTTTTCATCGCTTCGAGCATAGGGTAAAACGCATCAAGGAAACGGTATTT
CACCTGCTGGCGTTCTTCCGCGCTGCTGCCGCTGGGCAAATAAAGCGAGATAACGCTCAA
CCTGCCGAAATCGCAACGCACAAACCGCCCTTCCCTGTCGAATTCTTCAATGCCCATACC
GATTTGCACATTGTCGGGTTTGCGTTTGCTGTACACCGCCACGCGCTGTAACCGCGCTT
GTCGGCGCAATGCCAATGACCGTGCATCCCGTGCGGATTTTTCATATCGGCAGACAAATC
AGCCTCCTGCGCTTTGAGTTCCTGCACGCGAGACAATGTCCGCGCCCGATGCGGCGATGTA
```

Appendix A -491-

```
TTCGTAAAAACCTTTTTTGTAGGCGGAGCGGATGCCGTTGACGTTGGCGGAAATGATTTT
AAGCATAATAAAAATAAGTTCTCACAATAAAAATGCCGTCTGAACAAAAAAGGGCAAAAT
GCGGCACATTTACCCTTTTCGATGGATTTTAACCGCCGCCGCCAAGTCGTGCCGCCGGCGT
TGTCTTCCAAAATGATTTTGTGTTCGTTCAGAAGGTCGCGGATGCGGTCGGATTCCGCCC
AGTTTTTATCGGCGCGCGCCTGTTTCCGCCGGGCGATCAAGTCTTCGATTTCTTCGTTGG
AGAGACCGTCTGAAGCCGCGCCGCCTTGCAGGAACTCGGTCGGATCGCGTTGCAGCAGTC
CGATGATGCCGCCCAAGGCTTTCAGACGGCCTGCCAGTTGCGCGTCATTGGTTTTGTTCA
CTTCGCCGGCAAGTTCGAACAACACCGCCACCGCTTTCACCGTATCAAAATCATCATTCA
TCGCAACATAAAAGCGGCGCGTGTAGTCATCGCCGGCTTCAGACGGCATCGGATCGGCGG
GCGGCGTATTTTTCAAAGTCGTATACAAACGCGTCAACGCGCCTTTTGCATCATCCAAAT
GCGCGTCGGAATAGTTCAACGGGCTGCGGTAGTGGGCGCGCAGGATGAAGAAGCGCACGA
CTTCCGGATCGTATTGTTTCAACACTTCGCGGATGGTGAAGAAGTTGCCCAGCGATTTGG
ACATCTTTTCGCCGTCCACGCGGATAAAGCCGTTGTGCAGCCAGTATTTGACGTGGCTGG
CGATGCTTTGCCCGTGGTGGGTTTGCGCGTGATGATGACCGCAGGTATGCCCCGTCGCGC
CGACGCTTTGGGCAATTTCGTTTTCGTGGTGCGGAAACTGCAAATCCGCCGCCGCCGCGT
GGATGTCGAAGGTATCGCCGAACAGGTTTTCACTCATGGCAGAGCATTCAATGTGCCAAC
CCGGACGGCCGTTGCCCCACGGGCTTTCCCACGCCGGTTCGCCTGCTTTGGCGGCTTTCC
ACAACACAAAATCAAGCGGATCGCGTTTGAAACCGTCCACTTCCACGCGTTCGCCCGCAC
GCAGGTCGTCCAACGATTTGCCCGACAATTGTCCGTAAGCGGCAAACTCGCGCACGGCGT
AGTAAACGTCGCCATTTGCGGCAGGATATGCCTTGCCGTTTTGAATCAGGGTTTCAATCA
TGGCAATCATTTGCGGAATGTTTTCCGTTGCCTTCGGCTCAATATCCGGACGCAACACGC
CCAAAGCATCGGCATCTTCGTGCATGGCTTGGATGAAACGCGCAGTCAGTTTGCCGATGG
TCTCGCCGTTTTCAGCCGCGCGGGCAATGATTTTATCGTCGATGTCGGTGATGTTGCGTA
CATAAGTGAGCGGATAGCCGCACTCGCGCAACCAACGGGCAATCATGTCGAACACCACCA
TCACGCGGGCGTGTCCCAAATGGCAGTAATCGTAAACGGTCATACCGCAGACGTACATAC
GCACGTTTTCAGGGTCGATGGGGGAAAAGGGTTCTTTTTGACGGGTTAGGGTGTTGTAGA
TGGTGGTCATGGGATTATGGATTAATCTTTGTTGCTCGGATGATAATTTCTGTTCTGTTC
CTGTAGATACGGACCAAGGAACATTACGTAGTTGCGGATTATTAATATGGCTGATATTTG
TGAAAATTGGTTCTGCATAACAGTTTGCAAAATTTTTTGTAAATTCTGATAATTTAAACT
TATCTTTTAATAAGTTTGCTAAATCTGATGACGAGGGATAAAGTTTACTTCTTATACTAG
GCATTTCAATATGAAGGACTATTTTTATTTCGTTACAATCTAAAGCCAAGCGAGAAAAAT
CTTTTTCTTCCTGTTTTTCTGCTTTAAATTTAGCAGAAACCAATCCTGCCAATGAATCTC
GAATTTTTCTTGCGATTAAATATGGTAGGTCAGAAAGTTTTTCATCTATTGATTGGGCAT
TTGGCTCAAGCCCAAGTCGGTAATAATCTTTAATTTCGATTAGCCAAAGTGTCGATTCAT
GAAGGGCTATTATATCTACACCTGAGCTGCCATTATCGTCATCTACACTTTGATTTATCC
CGTTCTTTCCCTTTTCATTTGTATCAATTTTATTACGTAAATTACAACTGTTCTGAAAAA
TTTTATAATGTTCCCATTCGTCATACTTGGTAACGTAATAATCTTCAGGAAAAGCAAAGG
TTAATCTCTTTTCTGTGATTGTAGTCATAGCTTAACCTCAAATATTCAGATACCTGTCTG
CCTGCATAATGTTTTCATCTAACAATATCAATGTGTTCAAATCATTAATACTGTTCCCTT
GCTCCACTTTTGTTCCATCATCGGAAGCAATCAACGAGAAAAACGTACAGGTAAATCCG
TGTTATTTTCAAGCTTCAAAAGTTCCAATTCTCTCAATAAGAATAAAGAGTGTGTTGCAA
TAAAAACCTGAATACCCTGTTGAGATAAAGACCAAATAATACGGGCAGCCACTTTGATCA
ATTTAGGATTCAGATTAGCTTCCGGTTCATCCCAAAATAGATAGCCTTTATCCAGCAATG
CCCCTGTTGCGATTAACCGGGCAATCATGACAAATTTCCGCAAACCCTCTGCTACCAAAG
GTGCTTCAATCTTACCGCCCGTATTGTCAGCGATAGATAAAACCTTCCTTGTTCTTCAG
ATACTTTTCCGCCCATCGCGTTCTCAATAGGTTCGAGCAATTCTCGAATTTTTGTTTCTC
TGGGGCCTTTGGCAAGCGGGTGATTTAATTGCATACAGGTATCAAACCAAGTTTCTTCGA
AAGGGATGCTTTGGTTTTGATACAAAGAAGTGAACCAAGGGCAAAGTGTAATTAATTCGC
GGCTGGGTAAGAAGATAGGTGTCGGAGTATATTCATTTTCTTTCAATCCGATGCTTTGAA
CATTGACTTGCGATGATGAGTTACTGGAAAAATTCAGACTACTATGCGTAGTGCCGTTTT
GCAGTTTTAAAAACGATTTCCGTACGCCCGCGCCCCTGCAAACGTTTGCTCAACCTACCCA
AGGAATCGGGACGGAAAACATTCAGTAATTTATCGGCAAAACTTTTTTGCAATTCTGTTT
TCAGTAATCTGTTTTTGGTGTTAGATGTTACTTCTAGCAGGCTGTATAAAATTTTTAACA
AATGTGTTTTGCCACAACCGTTTTCGGCAACAATAACATTGAGATTTTCAGAAAATTCAA
AAGTATCGTTTGGAAGAACGGTAAAGTTTGTCAACTCAAGCGACTGGATATATTGGTTAG
ATGACATTTTTAATCCATTTCAATCTTGCTTTAAAATTGTTTCAAACAACCTTTTGTAGA
ACAAATATCGTCTGAAACCCTTTCTTTTTTCACTCCGGCTTAAACACGCCTGTATCCGTT
TTAGGCTGCTGTTCGATAATTTCAACATTTGCCGCTGCTTTCTCCGCTTCTGCTTTTTCA
GCTTCGATACGTTTTTTCTCGGTCAGGTATTGGTTGATTTGGTGTACCAATTCCTGCGTG
CCTTGGTGGGTCAGCGCACTGATTTGGAAGAGGCGCGGGGTTTCCATGTCAAATTGGAAA
CGGTCGTCGGGTTTGGGGTAGTCCCAGCCGACGGCTTCGAGGAAGGCGGCAGTGCGCGTT
TGGGCTTCTTCTTCGTCAAGCATATCGAGTTTGTTCAGTACCAGCCAGCGCGGTTTGCCG
TAGAGTTCTTCGTCGTATTTGCGTAATTCGTTGATGATGGCGAGTGCTTCTTCGGCGGGG
TTGACGGTTTCGTCGAAGGGCGCCAAATCGACGACGTGCAGCAGCAGGCCGGTACGTGAT
AAGTGTTTGAGGAAACGATGGCCGAGGCCTGCGCCTTCTGCCGCGCCTTCAATCAGGCCG
GGGATGTCGGCCATCACGAAGCTGTGGTTTTCGTCGATGCGTACCACGCCTAAGTTTGGA
TGCAGGGTGGTGAAGGGGTAGTTGGCGATTTTGGGGCGTGCGGCGGATACGGCGGTAATC
AGGGTGGATTTGCCGGCGTTGGGCATACCCAATAAGCCGACATCGGCGAGGACTTTAAGT
TCGAGTTGCAGGGAACGGGCTTCGCCTTCTTCGCCGGGGGTGGATTGTTTCGGGGCGCGG
TTGACGGACGATTTGAAGTGGATGTTGCCCAAGCCGCCTTTGCCGCCTTTGGCGAGGCAG
ACGCGCTGTCCGTGATAAGTGAGGTCGGCAACGGTTTCGCCGGTGTCGAGGTCGCGGATA
AGGGTGCCGACGGGCATTTTGAGGACGATGTCGTCCGCCACCTGCGCCGTAACGGTCGGAA
CCGTGGCCTTTTTCGCCGTTTTTGGCTTGGTAGCGCGTTTAACGAAGCGGTATTCGACGAGG
GTGTTGGTGTTTTCGTCGGCTTCTGCCCAGACGCTGCCGCCTTTGCCGCCGTCGCCGCCG
TCCGGGCCGCCGCGCGGTACGAATTTTTTCGCGGCGGAAACTGGTTGCGCCATTACCGCCT
```

Appendix A   -492-

```
TTGCCTGCGGCGACTTCGATTTTTGCTTCGTCGATGAATTTCATTCAATGCTCTTGTTTG
TTGGTTTCAAATGGGGGGGTTCAGACGGATTACCGTGTGTTTTGATGCCGTCCGAACAGAA
TTTCGGACGCTATTATAAGGGATAAGCGGTATTTCAACACGCCGTACCCAAACTATTTGT
TCCGCCCATCTTAATGAATTTTTAAGCAAATCTTCAGCCTGCAAACAAAATTATGTCCAA
CTTCTTTGGTACAATCGCGCCTTTTTGACATTCCGACCCGACGGAATGTCCGTTCAAACC
GTTACATATAATAAGTTTTTTATGAACACAAACCAACCTGCCGTTTACGACCCGTTGACA
CGCGCGCTGCACTGGCTGACCGTTGCCGGCTTCATCGGCATTCTGACCACCATTGTCCTG
TGGACGATTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTAC
AAATAGTACGGCAAGGCGAGGCAACGCCGTACTGGTTTTTGTTAATCCACTATACGAAGA
GGCGGAATGGGTGGGCAGCCTGTTCGGCCTGCACAAATCTTTCGGTTTCCTTACGCTGAC
GGTGATTACATTGCGCATCGTGTGGGCGGTTGCCAACCGCGCCAAGCGTCCGCAAAGCGA
CTGCAAGGCTGCGGCGGCAGGCCACGGCATTCTGTATCTGCTCATGCTTGCTGTTCCCGT
TATCGGCATGATCGCGCCAATACGGCAGCGGCCGCGGCCCGTTGAAAGTGTTCGGCGTTGA
AGTGATGCAAGGGTTCGGCGGAAAAAATCGAGTGGATGGCAAACTTGGGCAACACGTTCC
ACGGCAATTTGGGCTTGCTGCTGTTTGCCGCCGTCGCCGGACACGTCGCCATGGTCGTCG
CCCACCGTGTTCAGGGTAGAGATGTTCTGTGCCGCATGACGGGTCGTGTCCGCTGATTCC
GTTCACACTATGGTGCCGGCTCGTCCGGCACTATTTGTTTTTCCAAGACAGAGCCAGATC
GTACAAAGCTTTCTTTCCCTCGCCCGTGATTTTGGCAGCAAGCTCCGCCGCCTGTTTGGT
CGGCAGCTCGGCTGTGAGGATTTTCATGATGTTTTGCGCGGGACTCGGACAAGCCTTCGTG
TTTTTCATCCTGCGCCGGATAAAGCACCAACACCATCTCGCCGCGCGATTGGTTGCCGTC
GGCAGACAATGCCGTCTGAATTTCCCCAACCGTGCCGCTTAAGAACGTTTCAAACGTTTT
CGTAATTTCGCGCGCCAGCATTAATCGGCGTTCGGGGAACAGTTCCGCCATATCGGCAAG
CGTCGCACCGATGCGGTGCGGCGTTTCAAACATGACGATAGGAAACGCCGCCCGCACCCA
TTTGGCAAACAGTTTCCTGCGTTCTCCCGATTTCGGCGGTACAAAACGTTGAAATAAAA
ATCGGATCCTTCCACACCGGCCACGCTCAAAGCCGCCATCACCGCGCTTGCGCCCACGAC
GGGAACGACTTTAAACCCGGCCTCACGCACGCGGCGGGCGAGTTTCGCGCCCGGGTCGCA
CACGGCCGGCGTACCCGCATCGGAAACCTGTGCCACAACCATGCCGTCTGAAAGATAGCC
GACAATCTTGTCCGCCATCTGCCGTTCGTTGTGTTCGCGCACACTGACGAGTTTGCCCTG
AATGCCGTACGCGCTCAAAAGCTGTGCGGTAACGCGCGTGTCTTCGGCACAGATGATGTC
CGCCTTTTGCAATACCGCCAAAGCGCGCAGGGTAATGTCCGCCAAATTGCCGATGGGCGT
GGCAACCACGTATAATGTCCCTCCGACGACGCTGTCGGAGGCTTTCTGCAAATGTTTCTG
AAACATAAGAATGCCGTCTGAAAAACAAACATTATAAAGGTTAAACCGATTATGCGCCTA
AACCACAAACAGGGCGAGGCAGGGGAAGATGCCGCGCTTGCCTTCCTCCAATCCCAAGGC
TGCACGCTGCTTGCCCGCAACTGGCACTGCGCCTACGGCGAAATCGACCTGATTGTCAAA
AACGGCGGCATGATTCTGTTTGTTGAAGTAAAATACCGCAAAAATCGGCAATTCGGCGGT
GTCGCATACAGCATTTCCCCATCCAAATTATTGAAACTGCAACGAAGTGTAGAGTATTAT
CTGCAACAGAACAGGTTGACAAACGTACCGTGCCGCCTCGATGCGGTACTTATCGAAGGC
AGCCGCCCGCCCGAGTGGATACAGAATATTACAGGTTGACGATATGACGACATTACAAGA
ACGCGTTGCCGCCCATTTTGCCGAAAGCATCCGTGCCAAGCAGGAAGCCGGAAAAGTATT
GGTCGAGCCGACCGTACAGGCTGCCGAGCTGATGCTGCAATGCCTGATGAATGACGGCAA
AATCCTGGCCTGCGGCAACGGCGGTTCGGCTGCCGACGCGCAACACTTCGCCGCCGAAAT
GACCGGCCGTTTTGAAAAAGAACGCATGGAACTCGCCGCTGTCGCGCTGACAACAGACAC
TTCCGCGCTGACAGCCATCGGCAACGACTACGGTTTCGACCACGTATTCAGCAAACAGGT
GCGCGCGCTCGGACGTGCAGGCGATGTATTGGTCGGCATTTCCACCTCCGGCAATTCCGC
CAACGTCATCGAAGCCGTCAAAGCCGCACACGAACGCGATATGCACGTCATCGCCTTGAC
CGGCCGCGACGGCGGCAAAATCGCCGCCATACTCAAAGACACCGACGTTTTGCTCAACGT
TCCCCATCCGCGCACCGCCCGTATTCAAGAAAACCACATCCTGCTGATACACGCCATGTG
CGACTGTATCGACTCCGTACTGCTGGAAGGAATGTAACCCTTTTCAGACGGCATGGCGCA
AAGCAATGCCGTCTGAAACGCCCAAGAAAGGAAGCACCCGATGAAACCCAAACCGCACAC
CGTCCGCACCCTGATTGCCGCCATTTTCAGCCTTGCCCTTAGCGGCTGCGTCAGCGCAGT
AATCGGAAGCGCCGCCGTCGGCGCGAAATCCGCCGTCGACCGCCGAACCACCGGCGCGCA
AACCGACGACAACGTTATGGCGTTGCGTATCGAAACCACCGCCCGTTCCTATCGCGCCA
AAACAACCAAACCAAAGGCTACACGCCCCAAATCTCCGTCGTCGGCTACAACCGCCACCT
GCTGCTGCTCGGACAAGTCGCCACCGAAGGCGAAAAACAGTTCGTCGGTCAGATTGCACG
TTCCGAACAGGCCGCCGAAGGCGTGTACAACTATATTACCGGTCGCCTCCCTGCCGCGCAC
TGCCGGCGACATCGCCGGCGACACTTGGAACACATCCAAAGTCCGCGCCACGCTGTTGGG
CATCAGCCCCGCCACACAGGCGCGCGTCAAAATCGTTACCTACGGCAACGTAACCTACGT
TATGGGCATCCTCACCCCCGAAGAACAGGCGCAGATTACCCAAAAAGTCAGCACCACCGT
CGGCGTACAAAAAGTCATCACCCTCTACCAAAACTACGTCCAACGCTGACTCGGCAATGC
CGTCTGAACCGCCTTCAGACGGCATTGCCCGACACCCCAAAAGCACAATCAAAATGCGAA
AAAAACCGAACAAACCCTTCAGGCTGACCCCCAAACTCCTGATACGCGCCGTATTGCTCA
TCTGTATCGCCGCCATCGGCGCATTGGCAATAGGCATCGTCAGCACATTCAACCCGAACG
GCGACAAAACCCTTCAAGCCGAACCGCAACACACCGACAGCCCCGCGAAACCGAATTCT
GGCTGCCAAACGGCGTAGTCGGACAAGATGCCGCCCAACCCGAACACCACCACGCCGCCT
CATCCGAACCCGCACAGCCGGACGGCACAGACGAAAGCGGCAGCGGACTGCCGTCCCCTG
CCGCACCCAAGAAAACCGGGTCAAACCGCAACCTGCCGACAGCTCAAACCGACAGGC
AGCCGGACGACGCCGGAACACAAGCTGAAAACACACTCAAAGAAACCCCCGTACTGCCCA
CAAACGTCCCCCGTCCCGAACCCCGAAAAGAAACACCCGAAAAACAGGCGCAGCCCAAAG
AAACGCCCAAAGAAAACCATACCAAACCGGACACCCCGAAAAACACGCCGCCCAAACCCC
ATAAAGAAATTCTCGACAACCTCTTCTGACCCGGCACGGCAGGCACACCCGCAATCCAAG
GAAGCATTATGAACGGCATCATCATCAAAAACCCCCGAAGAAATGCGACGACGCGCGGCAA
TGGGCAAACTCGTCGCCGAAGCCCTCGACTACATCGGACAATTCGTCAAACCCGGCGTAA
CCACCGACGAAATCGACAAACTCGTTTACGACTACCACGTCAACGTCCAAGGCGGCTATC
CCGCCCCCCTGCACTACGGCAACCCGCCCTACCCCAAATCCTGCTGCACCTCCGTCAACC
ACGTCATCTGCCACGGCATTCCCGACGACAAGCCGCTCAAAGAAGGCGACATTATCAACA
```

```
TCGACCTCACCATCAAAAAAGACGGCTTCCACGGCGACTCCAGCCGTATGTTTACCGTCG
GCAAAGTCTCCCCCATCGCCCAACGCCTGATCGACGTAACCCACGCCTCCATGATGGCGG
GCATAGAAGCCGTCAAACCCGGCGCGACACTGGGCGACGTAGGTTACGCCTGCCAACAGG
TTGCCGAAAACGCCGGCTATTCCGTCGTACAGGAATTCTGCGGACACGGCATCGGGCGCG
GTTTCCACGAAGCCCCGCAAGTGTTGCACTACGGAAAAAAAGGACAGGGCCCCGTTCTAA
AACCGGGTATGATTTTTACCGTCGAACCGATGATCAACCAAGGCAAACGCCACCTGCGTA
TCCTCAACGACGGCTGGACGGTGGTTACCAAAGACCGCTCCCTCTCCGCCCAATGGGAAC
ACGAAGTCTTGGTGACCGAAACCGGCTACGAAATCCTCACCGTCAGCCCCGCCTCCGGCA
AACCCTGAAACCGGACGTATCCGCCCCATAAAAACAAACAATGCCGTCTGAAAGAAACGG
CAGATATGATATATAATATAAAAACAGGCTTGACCCGGCACATTACGAAAACAAAGCAAA
TCGGAATTTGCCCCGCAACCAGACAAACTTAAAGGAAGTTTTATGAAAATATTTGAAAAT
ATAGAAGATGTTAAAGCCATCCGTAAAAAGACCGGGCTGAACCAGATAGACTTCTGGGGC
AAGGTCGGCGTTACCCAGTCCGGAGGATCGCGCTACGAAACCGGCCGCAAAATGCCCAAA
CCCGTACGCGAACTGCTCCGCCTCGTCCATATCGAATGCATCGATTTGGCGAAAGTCAAC
AAAAAAGATATGGAAATCGCCGCCCTGTTGAAAAAACACCATCCCGACCTGTATGCCGAG
TTGTCCAAACAGACCAAGTCCGAAAGAAAAAAACAAAGTTAAACCGCAACCTCCGGATGC
CCGACAGTTTTTCATTTCCGAAAAACGCAAACAATGCCGTCTGAAACACCGGACAGGTCG
CCGTATCCCGCCTGCCGCCCCTGCCTCAAACCGCCGAACCGCCCGAACCCGCCTTTTTAC
AAACTTTATCCAATTTCCTGTTTATTTCGGGATACGCCGACATTAGAATGTCAAACAGCT
CGAAACGGGCAAACTCCACATCCATCCAAAGGAATAAAAATGAAACTTCTGACCACCGCA
ATCCTGTCTTCCGCAATCGCGCTCAGCAGTATGGCTGCCGCCGCTGGCACGGACAACCCC
ACTGTTGCAAAAAAAACCGTCAGCTACGTCTGCCAGCAAGGTAAAAAAGTCAAAGTAACC
TACGGCTTCAACAAACAGGGTCTGACCACATACGCTTCCGCCGTCATCAACGGCAAACGC
GTGCAAATGCCTGTCAATTTGGACAAATCCGACAATGTGGAAACATTCTACGGCAAAGAA
GGCGGTTATGTTTTGGGTACCGGCGTGATGGATGGCAAATCCTACCGCAAACAGCCCATT
ATGATTACCGCACCTGACAACCAAATCGTCTTCAAAGACTGTTCCCCACGTTAATCAGGC
AACAAAAAACAGCGTTTTCAGAAATGAAAACGCTGTTTTTTTGACCGTTCCATTATTCAC
AAAAGGGAAAAAACGATTACCTGCCCCGTGTATCAAAACCTGCCCTGCCGGATGAAGGGC
ATAACCGGCAGGGACGGCGTCAACACCATATGGGGGTACGGCTTTTCTTGAAAGATTCGG
CTTAAATATCCAATACTTTCGCGGTATAGGCGATAATTTCATCCGCCCTTTCAGGGTTTT
CGTTCAACTTGATGCCGTAACCCGGTACCAGCTCTTTCAGACGGTCTTCCCAAGACGGGG
CGCGCTCGGGGAAGCATTGGTGCATCAGCCGGATCATCAGCGGCACAGCGGTCGATGCGC
CCGGCGACGCGCCCAGCAATGCGGCGAGTGAGCCGTCGGCGTGGGCGACAATCTCCGTAC
CAAACTGGAGCACGCCGCCTTTTTCGGAGTCTTTTTTAATGATTTGGACGCGTTGCCCTG
CGGTGATGAGTTCCCAGTCGTCGGGGTTTGCCTCGGGGTAGTATTCCAGCAGGGAGGCGA
AGCGTTCTTCTTTGGTTTTACGCAATTCGCCCAGCAGGTATTTGGTCAGCGGCATATTCG
CCCAGCCGGCGCACAGCATAGGATAGAGGTTGTCCATATGGATGGACAGCGGCAAATCCA
TAAGCGAGCCTTGCTTGAGGAAGTTGGAACGGAAGCCTGCGTAAGGGCCGAACATAAGGT
GGCGTTTGCCGTCCACGTTGCGTGTGTCGAGGTGCGGGACGGACATCGGCGGCGCGCCGA
CGGAAGCCTGCCCGTACACTTTGGCGTTGTGTTGTTCGACGGTTTCGGGGGTTGCTGTTGC
GGAAGAACAGGCCGGACACGGGGAAGCCGCCGTAGCCTTTGCCTTCGGGGATGCCGGATT
TTTGCAGCAGGGTCAGCGCGCCGCCGCCCGCGCCGAGGAAGAGGAAGCGGGTACGGAGGG
TGAGCTGCCCGTCGGGGTTGCGGGTATCGGCGGTTTTGAGCACCCACGCGCCGTCGGATT
CGCGTTTGATGTCTTCGACGTGGCGGTTGAACTCGGTTTTTACGCCCTTGCCCTGCAAAT
ATTTCACCATTTGGCGCGTCAGCCGTCCGAAATCGACATCCGTACCTTCGGCGGAGTAGT
TGGCGGCGACGGGTTGGTTTTCGTCCCGGCCGCGCATCATCAGCGGAGCCCAATCGGAAA
TTTTGTTCCGATCGGTGGAAAATTCCATATTTTCAAAAAGTTTTTGGGTTTTAAACGCGT
CATAACGTTTTTGAAGATAAGAACAATGGTCTTCATTCATCACCAAAGACATATGCGGCA
CGGCATTGATGAAGGAATTGTCTTCCAACTTGCCTTCCGCGACCAGCGTCGCCCAAAACT
GGCGGCTGACATGAAACTGTTCGGCAATATTGAGGGCGCGGCCGGATCGATAATCCCAT
TTGCACCCAACGGCGCATAGTTCAATTCGCACAGCGCGGAATGCCCCGTGCCGGCGTTGT
TCCACGCGTTTGACGATTCCAACGCCACATCTTCCAAGCGTTCAATCAGGGTGATTTCCC
AAGACGGTTCGAGTTCTTTGAGCAAAACGCCCAAAGTCGCGCTCATAATGCCGCCGCCCA
CCAAGACAACGTCTGTCGCTTCAGCCATGGTTTACTCCTAAAAAACAGGCATCTTCTGCC
CTTATGGTTATTTGCCGTACTACAAACGCCTGAATCGCAAAAGCAGGGAAAACCGGCAAT
GGTGTGTGTCCGAGTATGCTGTTTCGGGGTTGGAATGCGTTGCAAGCATGGCTTCCGACA
CCGCTTCAGGGGCTTGTAATATGTTATCGTGAATGTAGTGGATTTTACTGGGAAATGCAA
AGTTTTTCTGTCGCCCGCCAAGTCGGGAAACTGCGAAATGAAAAATAAAAATAGTTATTT
ATCTATATATATCAAATTTTTAATAGATAAAAAATCAAAATTGTTTATATATTAATTTTT
AAAAGATTGTCAGCATATTGCGTTAAGTTTTTTATAGTGGATTAACAAAAATCAGGACAA
GGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCAC
CTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCTGTACTGGTTTTTGTTAATC
CACTATAAATTTGAAAATACTGCCTCACACCTGCACGCCATACCCTGCCAACCTGCCGGT
CAGGATTTCCCTGTTTTTGCACCAATCTTCCCTCAGCATACTGTACACGACCGTATCGCG
CACACTGCCGTCTTTACGGAGCATATGCATACGCAGCACGCCGTCTTTTTCCGCACCCAG
CCGTTCGATGGCACGTTGCGAGGCAAGGTTCAGAATATCCGTGCGCGCCATCCCACGCAACG
GCAAGCCAAAACATCAAATGCGGAATCCAACAGCATGATTTTGCAACAGGTGTTTATCCG
TGTCCGCCGTGCCGATGCCGCATACCATGTGAATCCGATATCCAAACGCGGAATCTGCGG
TTCAAAATGATAATACGCCGTTGTCCCGACCACCCTGCCCGCCTCTTCATCGACAACCGC
AAACGCCAAACGCGTTGCCAATGCTGTCCCGATATAGTCTGCCACCCTATCCGGATGGGG
CGCGGACGTTACCCCCAGCTTCCAAACCTCCCCATCGCAAACCGCCTCGCGCAAACCCGT
TTCATGATGCACATCCAACGGTTCGAGACGAACGCCGCCCAACGACAAGACCGGCAGTAT
TATCTTTTCCGACATCCTTTTCTCCCAATATTCCGCCTTCAGACGGCATTTCCGCCCGGA
ATGCCGTCTGAACGGCTAAAAACACAATATCCCCGCCTCCGACACAAAACCGTCCAAAGA
CCGGTCGTGCGCCTCGACCGGCAGCCTGTCCACCAACTGGCAGGCAAAGCCCACGCCCAC
```

Appendix A   -494-

```
GGTTTTTGCCTGCAAACGGTATTTCATCGCTGAAAGCGTCGCATCGTAATAGCCGCCTGC
CTGTCCCAAGCGGTAGCCCAGCCTGTCCATACCGACCACTGGCACAAGCAGGAGGTTCAA
ATCATGCACACGCTTTTTCCGACCTGCAAACTGAGGGACATGCAGCTTCGCCCTACCGCG
CTTGCGTTCTTGTTTTACTCCATCGGCAGGATACGGCGTAAACCACATCCGCCGCGAACG
CGGTTCGATATAAGGCAGGTAGAGTTCCGCACCGCGTTTTTGCGCCGCGCGGACAAAGCC
GTCCAAACGCAATTCCTTGCCCATCGGCCAATACACGCCGATTTTCCGCCCTTTTTTAAT
ATAACGTTTGAGCAGGTGGTTGATTTTTACCGTTGCCGCCGCCCGCACGTCCCGCCCCAT
TTGCGAACGCCGCCCGCGCAATTCGCGGCGCAGGGCGCGTTTTTCCTCGTTCCTCATTTC
AGACGGCCTTTCAGGATTGCGGTAGAATGTTGCGATTATAACGATTTTGTTAACATTCAA
ACAGGACGCACACAATGTGGCACATCGTCGCCATCGGCTATCTTTTTGTTGCCGTTATGT
ATTCCGCCGCGCAGCCGAGTATTGCGCGCGCCTTGATTTATTTGGTTTTTTGGGCGGTGC
TGCCCACCGTGTTCACGGTTTTCACCATTACCGTCCGCCGCCGCAACCACCTGATGAGGC
AGCAGGAACAGGCGGAATCCGAACAGCAGCGCGCACAACGGCAAAAAGACAGCGGCACAA
AACCCTGAATCCCTTTTCAGACGGCATCTTATCCGCTATAATCCGTCAGTTTTCCATTTC
GGAAACACACTATTTTTTAAAACTTATGCCCACTTTCGCCGAAGGGTGCTTGACAATAGG
CGTGACCTATCAAGTTCTATGCGATTGAATGTGTGCTCTTAACCCTTTCAAGGAAATAAA
ATGTCTCAAATTACTATGCGTCAGATGATTGAAGCCGGTGTTCACTTCGGCCACCAAACC
CGTTTCTGGAACCCGAAAATGGCACAATACATTTTCGGTGCGCGCAACAAAATCCATATC
GTCAACCTGGAAAAAACCCTGCCGATGTTCCAAGACGCGCAAGAAGCCGTACGTCGTCTG
GTTGCCAACAAAGGTACAGTATTGTTCGTAGGTACCAAACGCCAAGCCGCGACATCATC
CGCGAAGAAGCGACCCGCGCCGGTATGCCTTTCGTCGATTACCGCTGGTTGGGCGGTATG
CTGACCAACTACAAAACCGTTAAGCAATCCATCAAACGCCTGGAAGAAAAACCGCAGCC
TTGGAAAATGCTGCCGAAAGCGGTTTCAGCAAAAAAGAAATTCTGGAAATGCAACGCGAT
GTTGAAAAACTGGAACGTTCTTTGGGCGGTATCAAAAACATGAAAGGCCTGCCTGACGCG
ATTTTCGTTATCGATACCGGCTACCAAAAAGGTACTCTGGTTGAAGCTGAAAAATTGGGC
ATCCCTGTTATCGCCGTAGTCGATACCAACAACAGCCCCGACGGCGTGAAATACGTTATC
CCCGGCAACGACGACTCCGCCAAAGCCATCCGCCTGTACTGCCGCGGCATCGCTGACGCA
GTTTTTGGAAGGCAAAAACCAAGCGCTGCAAGAAACCGTAGCCGCTGCCCAAGAAGCCGCT
GCCGAGTAATCCGGCAAACCGAAGAGGGGCGTTATGCCCCTTTTCTCAAATATGCCGTCT
GAACGTCCGTTCGCGGCACACGATTCCCGAATGCGGAAAATCCTTTCCGTATTTCCCAAA
AATCTAGGAGATTCAAAATGGCAGAAATTACTGCAAAAATGGTTGCCGACCTGCGCGCCG
CTACCGGCCTGGGCATGATGGAATGCAAAAAAGCCTTGGTTGAAGCCGAAGGCAACTTCG
ACAAAGCCGAAGAAATCCTGCGTATCAAATCCGGTGCGAAAGCCGGTAAACTGGCCGGCC
GTACCGCTGCCGAAGGCGTATTGGCTTACGCGATCAACGGCAATGTCGGCGCATTGGTCG
AAGTAAACTGCGAAACCGACTTCGTTGCTAAAGACGCGGGCTTCGTAGAATTTGCCAACT
TCGTTGCGAAAACTGCTGCCGAGAAAAAACCGGCTTCTGTTGAAGAACTGAGCGAACTGG
TTGAAGCAGAACGCAAAGCCATCATCGCCAAATTGGGCGAGAATATGTCTGTCCGTCGCT
TCCAAGTGATCGACACTGCCAACCAACTGGTTGCCTACATCCACGGCGCATTGGCGACCG
AAGGCGTATTGGTTGAGTACAAAGGCTCTGAAGACGTAGCACGCAAAATCGGTATGCATA
TTGTTGCCGCTAAACCACAATGCGTAAGCGAAGCCGAAGTAGATGCCGAAACCGTTGAAA
AAGAACGCCACATCTACACCGAGCAAGCCATCGCTTCCGGCAAACCTGCCGACATCGCCG
CTAAAATGGTTGAAGGCCGCATCCGTAAATTCTTGGCTGAAATCACTCTGAACGGCCAAG
CATTCGTGATGAACCCCGATCAAACTGTTGCCCAATTCTCTAAAGAAACGGCACTGAAG
TGATCAGCTTCGTACGCTACAAAGTAGGCGATGGTATTGAGAAAAAAGCCGTCGATTACG
CAGCCGAAGTTGCTGCCGCTGCTAAAGTGTAAGGCACTTATGAAAAAGAAAGCACCTGGA
TTCCAAACGAATCAGGGTGCTTTTTTTTGAGAAAACCGTTTACGGTACCTATTTTAAGAC
GACCGAATATTCAGACCGTCTTAAAACAAAACAATAATAAACCGACACACCCTATCATTA
ATATTCCGACCGTTGGAAATTCAGACGGCCCAACTCCGACCGACGACATTCAAGAAAGCA
AGGTATCCATGACACAGCAAATCAAATACAAACGCGTATTACTGAAACTCTCCGGCGAAT
CCCTGATGGGTTCCGATCCGTTCGGCATCAATCACGATACCATCGTTCAAACTGTCGGCG
AAATTGCCGAAGTCGTTAAAATGGGCGTGCAAGTCGGTATTGTTGTCGGCGGCGGCAATA
TTTTCCGGGGCGTATCCGCCCAAGCAGGCAGCATGGATCGCGCCACCGCCGACTACATGG
GCATGATGGCGACCGTGATGAACGCGTTGGCACTCAAAGACGCATTTGAAACTTTAGGCA
TCAAAGCGCGCGTACAATCCGCACTGTCTATGCAGCAAATCGCTGAAACCTACGCCCGCC
CCAAAGCCATCCAATATTTGGAAGAAGGCAAAGTCGTGATTTTTGCCGCCGGTACCGGTA
ACCCGTTCTTCACGACCGACACTGCCGCCGCATTGCGCGGTGCGGAAATGAACTGCGACG
TGATGCTCAAAGCCACCAACGTCGACGGTGTGTACACCGCAGACCCGAAAAAAGACCCGT
CCGCCACGCGCTACGAAACCATTACTTTTGACGAAGCCTTGTTGAAAAACCTCAAAGTCA
TGGACGCGACCGCTTTCGCCCTCTGCCGCGAACGCAAGCTCAATATTGTCGTCTTCGGCA
TCGCCAAAGAAGGCTCGCTCAAACGCGTCATTACCGGCGAAGACGAGGGAACGCTGGTTC
ACTGCTGATTGACCCATAGTGTCGGCAGATATAGTCGCATATGGTGCTTCAGACAGCCATT
ATTATATGGAGATTATAGTGGATTAAATTTAAACCAGTACGGCGTTGCCTCGCCTTGCCG
TACTGGTTTAAATTTAATCCACTATATTTACAATTTTGATACAATTTGTTTTTTCATCAAA
GGAGAAAATCTATGCAAGCACGGCTGCTGATACCTATTCTTTTTTCAGTTTTTATTTTAT
CCGCCTGCGGGACACTGACAGGTATTCCATCGCATGGCGGAGGTAAACGCTTTGCGGTCG
AACAAGAACTTGTGGCCGCTTCTGCCAGAGCTGCCGTTAAAGACATGGATTTACAGGCAT
TACACGGACGAAAAGTTGCATTGTACATTGCCACTATGGGCGACCAAGGTTCAGGCAGTT
TGACAGGGGGGTCGCTACTCCATTGATGCACTGATTCGTGGCGAATACATAAACAGCCCT
GCCGTCCGTACCGATTACACCTATCCACGTTACGAAACCACCGCTGAAACAACATCAGGC
GGTTTGACAGGTTTAACCACTTCTTTATCTACACTTAATGCCCCTGCACTCTCTCGCACC
CAATCAGACGGTAGCGGAAGTAAAAGCAGTCTGGGCTTAAATATTGGCGGGATGGGGGAT
TATCGAAATGAAACCTTGACGACTAACCCGCGCGACACTGCCTTTCTTTCCCACTTGGTA
CAGACCGTATTTTTCCTGCGCGGCATAGACGTTGTTTCTCCTGCCAATGCCGATACAGAT
GTGTTTATTAACATCGACGTATTCGGAACGATACGCAACAGAACCGAAATGCACCTATAC
AATGCCGAAACACTGAAAGCCCAAACAAAACTGGAATATTTCGCAGTAGACAGAACCAAT
```

Appendix A   -495-

```
AAAAAATTGCTCATCAAACCAAAAACCAATGCGTTTGAAGCTGCCTATAAAGAAAATTAC
GCATTGTGGATGGGGCCGTATAAAGTAAGCAAAGGAATTAAACCGACGGAAGGATTAATG
GTCGATTTCTCCGATATCCGACCATACGGCAATCATACGGGTAACTCCGCCCCATCCGTA
GAGGCTGATAACAGTCATGAGGGGTATGGATACAGCGATGAAGTAGTGCGACAACATAGA
CAAGGACAACCTTGATTCACACTACCATAACCGCTTGCTACCAAGGAAAACAAAATGAAT
TTGCCTATTCAAAAATTCATGATGCTGTTTGCAGCAGCAATATCGTTGCTGCAAATCCCC
ATTAGTCATGCGAACGGTTTGGATGCCCGTTTGCGCGATGATATGCAGGCAAAACACTAC
GAACCGGGTGGTAAATACCATCTGTTTGGTAATGCTCGCGGCAGTGTTAAAAAGCGGGTT
TACGCCGTCCAGACATTTGATGCAACTGCGGTCAGTCCTGTACTGCCTATTACACACGAA
CGGACAGGGTTTGAAGGTGTTATCGGTTATGAAACCCATTTTTCAGGGCACGGACATGAA
GTACACAGTCCGTTCGATCATCATGATTCAAAAAGCACTTCTGATTTCAGCGGCGGTGTA
GACGGCGGTTTTACTGTTTACCAACTTCATCGAACAGGGTCGGAAATCCATCCGGAGGAT
GGATATGACGGGCCGCAAGGCAGCGATTATCCGCCCCCCGGAGGAGCAAGGGATATATAC
AGCTATTATGTCAAAGGAACTTCAACAAAAACAAAGACTAATATTGTCCCTCAAGCCCCA
TTTTCAGACCGTTGGCTAAAAGAAAATGCCGGTGCCGCCTCTGGTTTTTTCAGCCGTGCG
GATGAAGCAGGAAAACTGATATGGGAAAGCGACCCCAATAAAAATTGGTGGGCTAACCGT
ATGGATGATGTTCGCGGCATCGTCCAAGGTGCCGGTTAATCCTTTTTTAATGGGTTTTCAA
GGAGTAGGGATTGGGGCAATTACAGACAGTGCAGTAAGCCCGGTCACAGATACAGCCGCG
CAGCAGACTCTACAAGGTATTAATGATTTAGGAAAATTAAGTCCGGAAGCACAACTTGCT
GCCGCGAGCCTATTACAGGACAGTGCTTTTGCGGTAAAAGACGGTATCAACTCTGCCAAA
CAATGGGCTGATGCCCATCCAAATATAACAGCTACTGCCCAAACTGCCCTTTCCGCAGCA
GAGGCCGCAGGTACGGTTTGGAGAGGTAAAAAAGTAGAACTTAACCCGACTAAATGGGAT
TGGGTTAAAAATACCGGTTATAAAAAACCTGCTGCCCGCCATATGCAGACTTTAGATGGG
GAGATGGCAGGTGGGAATAAACCTATTAAATCTTTACCAAACAGTGCCGCTGAAAAAAGA
AAACAAAATTTTGAGAAGTTTAATAGTAACTGGAGTTCAGCAAGTTTTGATTCAGTGCAC
AAAACACTAACTCCCAATGCACCTGGTATTTTAAGTCCTGATAAAGTTAAAACTCGATAC
ACTAGTTTAGATGGAAAAATTACAATTATAAAAGATAACGAAACAACTATTTTAGAATC
CATGATAATTCACGAAAACAGTATCTTGATTCAAATGGTAATGCTGTGAAAACCGGTAAT
TTACAAGGTAAGCAAGCAAAAGATTATTTACAACAACAAACTCATATCAGGAACTTAGAC
AAATGAATGAACACAACCTGTTAATTTTCTGTTTAAAAGACAATGTTTCAATTAGTGAAT
ATACTGAAATGGTTGATTGGGCTTATGAAAACATTCAATCTGAAACAGTTGTAGAAATTA
CGGAAAATCAAATTATTGAATATCAAAATCGTGGATTATGGGGGCTTGTTTCTGAAATTA
CCGATAATTGGTTATTTGGACCAAGTGAGGGGGGATTGGCTAATAGATAAGGAAAGTATTT
TGGCTGTAAAAGAAAAATTACAAAATTCAGATTTTTCTACAGAGCCCTTAGTGAAAAATA
TTATTCATGTACTTGAATATGCTATAAAGAATGAAAAAACAGTAATTTTTCATTTTTGAA
ACTAATCTAATTTTTAGCAGCCGTAGGTCGGATTCTCGAATCCGATATTTTCCAACAGCG
GCATTTCGGAAACGATAGATGCGTCAAATATTTTTGTCGGATACAAATATCCGACCTACA
TCTCTGCGCAGCAAACTTTACAAGATATTAATGAATTAGGAAATTTAAGTCCGGAAGCAC
AACTTGCTGCCGCGAGCCTATTACAGGACAGTGCTTTTGCGGTAAAAGACGGCATCAATT
CCGCCAGACAATGGGCTGATGCCCATCCGAATATAACAGCAACAGCCCAAACTGCCCTTG
CCGTAGCAGAGGCCGCAACTACGGTTTGGGGCGGTAAAAAAGTAGAACTTAACCCGACCA
AATGGGATTGGGTTAAAAAATACCGGCTATAAAACACCTGCTGTTCGCACCATGCATACTT
TGGATGGGGAAATGGCCGGTGGGAATAGACCGCCTAAATCTATAACGTCCAACAGCAAAG
CAGATGCTTCCACACAACCGTCTTTACAAGCGCAACTAATTGGAGAACAAATTAGTAGTG
GGCATGCTTATAACAAGCATGTCATAAGACAACAAGAATTTACGGATTTAAATATCAATT
CACCAGCAGATTTTGCTCGGCATATTGAAAATATTGTTAGCCATCCAACAAATATGAAAG
AGTTACCTCGCGGTAGAACTGCGTATTGGGATGATAAAACAGGGACAATAGTTATCCGAG
ATAAAAATTCTGACGATGGAGGTACAGCATTTAGACCAACATCAGGTAAAAAATATTATG
ATGATTTATAGGAAAAAGCCATGAATATACTATCCATAAATAATCAAAACTCAACTATTT
CACTAACTCAAGATGAAGTTTTTGTTTTACGAGCTATCTTGAATGAGATATATGCGGGCG
TATGTGTAGATTCAAGAGAATTTGAAAATGTATCTGGTGTTACAAAACATGAAGTAGATA
ATTTACAACAACAGTTTGCTGGAATTTATAAAAAAATGACAACTTAACAACCCAAATTTT
TGTCAGAGCCTAGTGCAAATTACAACTATGATTCTATTGTAGCCGAAATGAAAGAAAAA
ATCATGGGTTGGCGACAGGGTTGATGTTGTTAATATGCCTGATGGAGCACCTACTAGTAT
GGATAACACGCGTATTATGGCAGCACGTGAAGCAGGAGTAAAAGTGGAAGCGAATGTTCA
TAATTTTAATGACCGATTATCATCAAAAGAGAGAATCAAGTTTAAGCATGATGGTATTGA
GCCTCAAACTTGGGGAGAAGCTATCCAGCTACGAATTAGAAAGCAAGAAACACAAAAAGG
AGTTCCAGAAGGGTGGAGCAAAAGATTTCCTAACGGAAGTATTTATGATGTAAAGGTACT
TAGGAAATGATAAAACAAAATAGTTTTGTTCCGTATCCTGAAGCAATGCTTCCTAAAGGA
TTTAAATATCCGCAAAGTTATTTAAAATTAGCTCAATCCACTCATGCCATTAACTACGAT
GAACAATATTCTTTTCCTTGGTGGTTTGAAAATGCAGAAAGCAATATATCAGAAGTAATT
GACATTTATTTTGAAATAACTGGCATTCCAAACCTATTACCTTTTGCTAGAAACCAAGAG
TGGGCTGCCTGTTTTGATATTTCAGATAAATCAGGTAATCCTAAAATTATAGTAGTTAAT
TTAGATAATACAAAATATTACGAGACTTTTGAAAATTTTGATACTTGGCTAAAAGAAGCT
GAAAATGATGGTTGGTAGCAACCGTAGGTCGGATTCTCGAATCCGACATTTTTCAACAGC
GGCATTTCGGAAACGATAGACGCGTCAAATATTTTTGTCGGATACAAATATCCGACCTAC
ATCTCTGCGCAGCAAACTTTACAAGATATTAATGAATTAGGAAATTTAAGTCCGGAAGCA
CAACTTGCTGCCGCGAGCCTATTACAGGACAGTGCTTTTGCGGTAAAAGACGGCATTAAT
TCCGCCAGACAATGGGCTGATGCCCATCCGAATATAACTGCAACAGCCCAAACTGCCCTT
TCCGTAGCAGAAGCCGCAACTACGGTTTGGGGCGGTAAAAAAGTAAACCTTAACCCGACC
AAATGGGATTGGGTTAAAAATACCGGCTATAAAACACCTGCTGCCCGCCCTATGCAGACT
TTAGATGGGGAGATGGCAGGTGGGAATAAGCCACCAAAACCAAGTACGCAGCAACACCCT
ACACACTCTGATAACAATATCGGCTTACCTGCCTCATATGTTAAACCTGATACATCTATT
TCTCCGACAGGAACAATTCAAGACCGCATCAGATGGACAAAGTCCAAGTTTCCTACTGAG
AAATCTTTAAATGGACATTTCAAAGCTCATGGAAAAGAATTTGGCGATATAACCATTGAA
```

```
GACTACCAAAAAATGGCGTCTGATTTGTTATCAAAACAGACATCGGACAAGATATTAGGT
TATCAGACGGAACATAGACGAGTGCGCTATGATATCAATAACAATATCTATGTTTTGGCC
AATCCAAAAACATTCAAAATCAAAACAATGTTTAAACCAAACTTAGGAAAGAAGTATTAT
GATGGAGAATTCAAAAAAGACATGGGAAATTGACGGAGAAATATGGCTACATTGTCCTGT
TTGCGGAACTGAAGTTATGGACTATGATATCTGTGACGTTTGTCAGTGGCAAAATACAGG
AGAAACTAATATAGATGGTGGCCCTAATGAAATGACACTTGCGGAGGCGAAAGAAGCTTA
CGCAAAAGGCTTACCAATCAGATAAATAAGCACCTAGAGAAATCAATGATGACGGAATCC
CATGGTTACCTATCAAATAATTTACCTGTTAAAATCATAAATGATATTATTTATGCAACC
CAGTTAGTCGAAGATTTGGTTTTAGGAAAAAATAAAAATTGTTGATTTTTTAAAATCATAT
AACAATTTTTATTGTTGGCTTGGTTTTGATGAGTTGCCTCAATCTGAGAAAATAAAATTC
CTAAGCTATCTTAATATATTAAGTATTCATAAAGAAATACAAGATGAAACTGTGAATAGG
GTTTATACCGATTGAAAAATAGTAGATAGAGATTAACATGTTAAATGAAATTTTTGAAAT
TTATTCGAGACAAGGGGAATCTTTGATAGGAATTGGAATTAGAGAAGCCGCATTACCCGT
CCCTATTGCAATAGATATATTAAATTTATTTATCAATGAGAGAATACTTGTATTGGGGGG
AGATATTTATATCAAGAAAGATAATTATTTTTATCAAACATATGATAATTGGTATTACGA
GGGAAGTAATTTATTTAACAGTATCGACAAAGCAATGCATTATTTATCTCAAATAAAATT
AGAGAATGCATACGTATCTTTTGTGTTGAAATTTATCTAACAAAGGAAGCACAAGAATAG
ATTTATAGTAAAACATCAAGATGTTGAAAATGCTGGGTTTTAATCCAACCTACACTGACC
GGCTCAGATACAGCCGCTCAGCAGACTCTACAAGGTATTAATGATTTAGGAAATTTAAGT
CCGGAAGCACAACTTGCTGCCGCGAGCCTATTACAGGACAGTGCTTTTGCGGTAAAAAAC
GGCATTAATTCCGCCAGACAATGGGCTGATGCCCATCCGAATATAACTGCAACAGCCCAA
ACTGCCCTTTCCGTAGCAGAGGCCGCAGGTACGGTTTGGCGCGGTAAAAAGTAGAACTT
AACCCGACTAAATGGGATTGGGTTAAAAATACCGGCTATAAAAAACCTGCTGCCCGCCCT
ATGCAGACTGTAGACGGGGAAATGGCTGGGGGAAACAAATCATTAAAAAATAGGGACACAA
TCTGTTGAAAAATCAACCGGTCGTACAATACCTAATAATTTAAAGGAACAATTAGCAATG
GAAGAAGTTAAGGCAAACCCACAGGGCAAAACTCCTGCGAGAATACCTCCTATGTCCGAT
ACTAAAAATGGTTGGTTAGCAAAAGACGGTTGGGTTAAGCGTGTTCAAAACGTAAACAAA
ATTGAAATACATTACATTGAAAACTCAAGAACCGGTGAGAAAACAGATTTTAAGTTTAAG
GATTAGTCATGTTTTTAGATGATGTAAATGTTTTTTTAGATGATTTAAATGTTTTTTTAG
ATGATTTAAATACTAATCAATCACTGACGAATGGTATATGTCCAATTTTGCCGATAAAC
ATATTAAAATTTTGGAAAGTTACGAAGCCTTTGATATTCTAAAACAATTTGTTGATTACA
TGATTGAAGAATATGATGAAAAATCAGAATATGAAATCATGGAAATATTGAGACAATTAA
AATATCAAGCAGATACCAACGAAAAATTTTATACAAATACACAGAAACAGAAAATTGTAG
AATTATATAAACAAGAAATTAGTCAGGATATTTTAAATGAAATCTTTAGATAAACTATCA
ATATAGAAGGAAATCCTTGGAAAAAATAAAATGATAATCGAACACAATGGAAATATACAT
AAAATAGCCAGAATGACTGGAAATAAAAATAATTTTTTAGAAATAATCCTATCAGATATT
CATGAAAACATAAAAATCAAACCATTAACTATAAAAGTAAAAGGAGAGAATGTTATAAAT
ATCCTTCCTGAGGAAGTTAGTTTTTATGTAAAACAAGGTGTTGATTTAATTTATGAAAAA
TATAAACGGAAATTCTTTATCTCCGAAATTTCTTTTTGCCAATCAGATAGCCGGCCTTCA
AGTATCTACGCTTTTCTTACATTTCACTTGCTTGAAGATATTATTAAAAATGAATCCCCA
TCCAACTACACCTGACTGGCTAATAGCAGGTATGAACCGTGTATTCATATCAATATAAGA
TTAATTACGGCAGAATTTGATGAAATTAGACAAAAACTTATCGTAAGATTTTATTTAGAC
AGAGAAGTAACTGATGATGGCAAAGAAGATATGGAAACAGCACGAACAGAATTACTTCCA
GGAGGATATGCTTCATCTCTGGTAGTTTGACAGATTTGACCGCTTCATAAACTTAGAACA
TTAATTAATGATGATAATGTTTATATGATTGGTTCTAAGGATAGCAAAAGCAAATTCAGA
AGGAACATGAATGGCTATTTATGACTTAAACGAAATAGCCGTAGGTCGGATTCTCGAATC
CGACATTTTCCAACAGCGGCATTTCGGAAACGATAGATGCGTCAAATATTTTTGTCGGAT
ACAAATATCCGACCTACATCTCTGCGCAGCAAACTTTACAAGGTATTAATGATTTAGGAA
ATTTAAGTCCGAAAGCACAACTTGCTGCCGCAAGCGCATTATAGGACAGTACTTTTGCGG
TAAAAGACGGTATCAATTCCGCCAGACAATGGGCTGATGCCCATCCGAATATAACTGCAA
CAGCCCAAACTGCCCTTGCCGTAGCAGAGGCCGCAGGTACGGTTTGGCGAGGTAAAAAAG
TAGAACTTAACCCGACCAAATAGGATTGGGTTAAAAATAACGGCTATAAAACACCTGCTG
CCCGCCCTATGCAGACGTTGGACGGTGAGATGGCAGGAGGAAACAAGCCAGTTGTTAAAT
CTATCAGACCAACTACGCGAGATGAATTACGTCAAGCATTGCAAGAACAAGGTTTTAGAC
GTACTGGTTCAGATGCGGCTCAATATGAAACATGGAAAGGTCCTGATGGCGTGAAAATAG
ATATTCGTCCAAATGGAGAGGTTATAAGAACCCAAAGAGTGCCGCGAACCGATGGTGTAC
AGGGAAAATATCCGCAACGACAAGATTATGAAGGCAATCCATTGCCAAATAATCATCATC
ATTCTGGATATTTTGTCAAATGAAAAAAAAATATTTTTCACAATGTAAGCCTTTATGAAAT
AATCTTTTCCGATAATGGAAATACCCTTACATTATCTTTTACAGATACAATTGAAGGTAA
TTATTTCGGATATATCAAATGCAGTAATATTTTGAATTTTAAATTAGATACAAATAATTT
CGTAGATTATGAGGATAAGGAAGATAGCTTGTTTCCCTTGATTATACCCGAAATACAGCT
ATATAAATACCAATTTTATAGTGAAATTATTATTGATGTAGGGATTATTATAAAAATATC
TGCTGAAACAATTAATTTTGAGCCACTGGGAAAATAGTAACTGCTTTCCCAGCAGCCGTA
GCAACTGTATTTTTACCCGACGGGGTAAAAATACAGTTGCTACATCTCTGCGCAGCAGAC
TCTACAAGGTATTAATAATTCAGGAAAATTAAGCCCGGAAGCACAACTTGCTGCCGCGAG
CATATTACAGGACAGTGCTTTTGCGGTAAAAGACGGCATCAATTCCGCCAGACAATGGGC
TGATGCCCATCCGAATATAACTGCAACAGCCCAAACTGCCCTTGCCGTAGCAGAGGCCGC
AGGTACGGTTTGGAGAGGTAAAAAAGTAGAACTTAACCCGACCAAATGGGATTGGGTTAA
AAATACCGGCTATAAAAAACCTGCTGTTCGCCATATGCAGACTAAGGCGTTAGGTACGGT
AGATGAAATTGGCGATACAGTACAGCAGGTTGGGAAACAGGCTAGCGGACAAAAAACCAG
CGGTGGTAATCCTGCGATTGATAGCGACCCCTATAGCCCGAGTAGTGTGGCAGCTCGCAT
AGAAGCCGGTAAGGCGCGCAGTGATTTACAAATCAAAGACATTTTGAGCAATACTACTCA
AAGGAGTAAAACAAAAGGTCCCGCTGTTCAGTATGATAAAATGGGGGGATTACAATGACGC
ACTAAATGATTTTAATAGTCTGAATGTTCGAAATGTACAAACACGTCCTAATGGAACGAT
AACGGGCAATTTACCTGATGGGCGTGCGGTTAATGCTCGTAATGATAGTAGTGGTGGAGA
```

Appendix A　　　　　　　　　　　　　-497-

```
ACCAACACTTGAAATAACAATTAGTAATAACCGAAAAATAAAAATCAGATATGGAAATAC
ACGATAAATTATGAAATTAAAAAGCTTAGATTTCCCAACTGGCTATTTCTATTTTGATAA
TGCAGCAATAAACTCTGATAAAGTAGAAGTTATAGCAGTTGGTTATAGAAATACGGATAA
AACCATAAAAATTTTTATTGAAGATGTTATTCATTTTAGGGTTGTTGATGAATCGTATTT
TATAGATACTTTTATGGATTTAATTTCGGAAGATGCAGATAGAGCTTTGCTTCATGTAAAA
TGGTGGTCAATCTTTTTTTGAACTTCTTGATGAGTGTTATGCGGAATGGATATTGAAAGA
AAGTTATTTTCCTTTGAATAGAGAATTCTTTAAATACTATATTTTTATGTTTGAGCAAAC
ATTCATAGAAATAATTGGTTCTAGTGCAACGTATTCAATTATTGAGGGCTAGCGTAAGAT
GAGTAATAAGTTGCCTATCTTTCTTTCAGGCAGCCTGAAAATAAAACTACCCAAGTTGAT
GGTGTACCTGTATCAGTGAAGGGAAATTTTGTTGATGGTAAATTTCGCATTGGTACGGCA
ACAATGAAATCATTTTAAATTGAGCTAGAAATGAACCTAGAAAATTATGAAAACATTTTA
ATAAAATTACTTTTTTATCATAACAACTTAGTAAATGAATATTCTTATTTTATTGAAAAT
AAAAATTTATTTAAAATAGTATCTCGAACGAAAACGAGTAAGGGCTTTTTTTTCACTATA
GAAAACCATTAAATTTTCTAAGCAAAAAAACTTATTTTGAGTTTAATTTTAAATATTTA
CACTCAGGGAAAGAACGCTTTGGTTCGTTTATGTGCTGGATAAATACTAATTTAATGGAA
TTTGAGGGGGTTTTTTTTAACGACCTGCTCCCTGATAATATGATAATAAATAACTTTTTT
GAAATAAATGATTAACGATACACCAATAAAAATTGGTGGGGTAACCGTATGGATGATATT
CGCGGCATCATCCAAGGTGCGGTTAATCCTTTAATTTACAAGGTAAGCAAGCAAAAGATT
ATTTACAACAACAAACTCATATCAGGAACTTAGACAAATGAATGAACACAACCTGTTAAT
TTTCTGTTTAAAAGACAATGTTTCAATTAGTGAATATACTGAAATGATTGATTGGGCTTA
TAAAAACATTCAATCTGAAACAGTTGTAGAAATTACGGAAAATCAAATTATTGAATATCA
AAATCGTGGATTATGGAGACTTGTTTCTGAAATTACCGATAATTGGTTATTGGACCAAG
TGAGGGGGATTGGCTAATAGATAAGGAAAGTATTTTGGCTGTAAAAGAAAAATTACAAAA
TTCAGATTTTTCTACAGAGCCCTTAGTGAAAAATATTATTCATGTACTTGAATATGCTAT
AAAAAATGAAAAAACAGTAATTTTTCATTTTTGAGACTAATCCAATTTTTAGTAATATTG
ATGCAGAGCAAGCAGCATTAGATGCCGCAAACATGGGGAGAAGCTATTCAATTTAGAATT
AAAAAACAAATTGAAAATGAACTAGCACCACCAAATTGGTCTACCCAGTTTCCTAATGGT
AGTATTTATGATCCTAAGGTAACGAAATGATTATTCAAAATGAATTTAATTTATATCCTA
GTAATATGCTTCCTGAAAGGTTTTGTTATCCTGAAAAGTATGTTCGTATCTCTAACGATA
CATCTTTAATACCTTATATTCAGCCACATAATTTTCACTGGTGGTTTGAGAATTATGGAA
CAGAAGGGGCAGAAGTAGCTTATATATTTAGAAATTCTATCCTGCCTGATTTAAATCTTA
TCCCATTCGCTAGTAATGGAGAATGGGAAGCTTATTTTGATGGTAATGATGTAACAGGAA
ATTCTAGGGTTATTGTCATTAATTTAGATAATATAGAAAACCATGAATTTTTTAATAGTT
TTGAAGATTGGCTTGAATTAGCAATTAAGGATACTTGGTAAGCAGCTATCTATAAAGAGA
TGAGGCTGCCCTGGACAACTAGGATAAACTCGATTTTACTAATTGTTTTAAAATGGAACA
AGAACTTTTATTTCACTGTTGTTAAAACGCCATTCGCACTCCTTTAAATACAGCTCAAAA
TGCGCTTTGGGAATGCCGTTAAACTTGCGTAAATGACGTTTTGCTTGATTCCAAAAGTTC
TCAGTTCCATTAATATGGTTTTGTCGTTCGGCAAAATGTGTGCTGTGATTGATACGGAAA
TGGCTAAATTCGCCCGCATCCAATACATCATAGCCACGATAACAAAATGAGTTTATTTTG
TTTATACCGTCTTAGACGACTTTCTCTCATAGGGATAATTCTAACTTAATTTGAATTTCC
CTAGTGATCTAGGGCAGCCCCTAAATTAATAAAGCAGCACAACTCCTTTTGCCGATGTTC
CGGACTGTCAAACGACTGTTCCTCATGCCACATCTCCATCAAGGTACGGATAACCCGCTC
CGCCTTACCGTTGGTCTGCGGACAAGCAAATCGGGCAAGCCTCCAACCAATCCCATTATC
ATAACAAGCTGCACCGAAAGCATGTTGGACGGCTCTTTATATTACCTATCATTGTCAGAG
TAAACGTACTCAATCAGGTACAAGCAGGGGTCGGACAGATGTTCGGTCAGAAACTTGGCA
GCACTGTCTGCGGTTTTGTCCGGCAAAATGGCAGAGTATAAAAATCGTCAATAGCGACAA
ACAGGTAATCTCGTTTATCAGCGGCCTTCTGTCCTTTGAGCAACAACAACCGATCGGTAT
CAGGATGCACAAAACCTCCCGGGGACAACCTGCCTTTTACGGCTTTAAGTGCACGGTAAA
TAGTGACGCGGCTGACTTAGTGGCAGCATACTGGGGAGGTGAGTGTTTTTGTGTATATTT
TTATTTTGGTATTCCCTTAGAAATACTGTAAACAACGCTACCGGACGGCCTGCAGGGCTT
CGCGCACGCTTGCTTTGAGTTCTGCGCCGAAGCGTCTGCCCAAGATTCTGCCGAAATCGT
CCTTCGGAGTGTAATCCACCACATCGGGGGCTTTGACCACGTCTCGCGCCACGCTGTAAA
TATTGCCGAGTCCGTCCACCAGCCCGACTTTCAGCGCATCCGCGCCTGTGTACACGCGAC
CGCTGAACACGTCGGGATATTGTCGGAATTTGAGGCGGCCGCCGCGTCCGGTTTTGACGG
CTTTGATGAACTCGCCGTGTATGCCGGTCAGCATTTCTTCCCAGATTTTTGACTGTTCGG
GCGTTTCGGGCGAAAACGGATCGCCCATGCCTTTGTTGCCTGCCAATTTTAACCCTGC
GTTTCACGCCGATTTTTTCCATCAGGCCGGTCGCGTCGAAACTGCTGCCGATAACGCCGA
TGCTGCCGACGATGCTGGACGGGTCGGCATAGATTTTGTCCGCCGCCGCCGCGATGTAGT
AGCAGCCGGACGCGCACATATCTTCCGCCACGAGATAAACGGGAATGCCGGGGTGCTGCG
CCTTCAGACGGCGTATTTCTTCAAAAGCGGTGTTGGACACGACGGGCGAACCGCCGGGGC
TGTTGGCGCGGATGACGATGGCTTTTGCCTGCGGGTTTTGTAGGCGGCCTCCATACCGT
CTTTGAGTTTTTTGACCTGGTCTTCTACACCGTTGCCGATTTCGCCGTACAGATTGACGA
CTGCGGTATGCGGCGTGTTGCCCGCCAACTGCAATGCGGCTTCGTCTTTTCGGAAAATGC
CTGCAATCAGGGCAACCAGAATCAGGGTGCTGACGGCGCGCCAGATGTTTTTCCACATCC
GCTCCCTGCGCCTGTCCTGATAGGCGGACAACAGCACTTCGCGCATGATGTCGCGCTCCC
ATAAGGTTTCCCCCGCATTTTTTGCTTCGGGTGCTTCGTTTTCTCTTCTGATTCGGTATT
GCATGGTTTTCCTTAAATATTGTCCGATTTGGGCAAACGGTTTTCAGTTTACCCGATTTT
TCAGCTCTGCTCCCAATCCGTCCAAGCTGTGCAACACTTCCGCCCACGCCGCGTCCAAAA
GGTTGACGGCTTCTCCTTCGGCTTTGATGCCGAACTCAATGTGCGGTTTGACCTGCGTGC
CGTCTGAATGCGTCCAACCGACGCTGGGCAGGCTGTACGAACGCACGCCGGGATAAGTTT
GCTCGATATGCTCCATAAGCGGCGTAATGCGCGATTCGGGCTGCTCAAACACATACACGC
TGCGGCTGCCGCGTTCGGTTTGGTTGAAGCGGTCGGCGTAATAAGTTTCCAATACCCATT
CCGCCATCGGGTGCGCCATCACAGGAAAGCCGGGGAAGAAATAATGCTCGCGGATAGAAA
ATCCGGCGATGTTGTTAAACGGATTGGGCACCAATTCCGCGCCTTCGGGAAAATCTGCCA
TTTTCAGGCGTTGGGCGTGTTCCGGCGAATCAAGCGGCTCGCCGCGTTTCTGGGTTATGC
```

Appendix A   -498-

```
CTTCGATAAACTTGGCGGCTTCAGAATGGCGGACGACGGGCAAATCCAAAGCAGCGGCTG
CGGCTTGGCGGGTGTGGTCGTCGGGCGTGGCGCCGATACCGCCGGTAACGAAAGTTGGCA
TGCCGTCTGAAAAGCTGCGGCGCAGTTGCCTGACCAGCAAATCGGGTTCGTCGGGCAGGT
ATTGCACCTGATTGAGCTTCAGCCCTTTGGATTCGAGCAGGGATTTGAAAAAGGCGAAAT
GCTTGTCTTGGCTGCTGCCGTGTAAGATTTCGTCGCCGATGATGATGAGGTTGAACGCGT
TCATAGATGGTTTCTTTACCGATGCCGTCTGAAAATGTCGATGGTGCTGTGATTTGTTCC
CTCTCCCGTGGGAGAGGGTTAGGGAGAGGGTCGAGCTTGCGTTTTTCAGGCAGCGTTTGC
TTAAGGCCTGCTGTCTGTACCCTCTCCCCAACCCTCCCCCGCAGGGGAGGGAGTCAGGTT
GAGGATGGCGTAAAGACCGTCTGAAAAGATTTTCAGCGAAACGGGCAAAGCTTCTTTTCA
GACAGCCTTAACGGCTGACAATGGGTTATATTTATAAGATAATGAACTCCTTTTTTCAAG
TCCGAAGGATACCCTTATGAGCCAAAACCATACCATTCTGCAATCCCTCCCCGTCGGTCA
GAAAGTCGGCATCGCCTTCTCCGGCGGTCTTGATACCTCTGCCGCGCTGTTGTGGATGAA
ACTCAAAGGCGCGCTGCCTTATGCCTACACTGCCAACCTCGGCCAGCCCGACGAAGACGA
CTACAACGCCATTCCCAAAAAAGCGATGGAATACGGTGCGGAAAACGCCCGCTTAATCGA
CTGCCGCGCGCAGTTGGCACACGAAGGCATCGCCGCCATCCAATGCGGCGCGTTTCACGT
TTCCACCGGCGGCATCGCCTATTTCAACACCACGCCTCTGGGCCGCGCCGTAACCGGCAC
TATGCTTGTTTCCGCAATGAAAGAAGACGATGTGAATATTTGGGGCGACGGCAGCACCTA
CAAAGGCAACGACATCGAGCGTTTCTACCGCTACGGTTTGCTCACCAATCCCGCGCTGAA
AATCTACAAACCCTGGCTCGATCAGCAATTTATCGACGAACTCGGCGGCCGTCACGAAAT
GAGCGAATTTCTGATTGCCAACGGCTTCAACTACAAAATGTCGGTGGAAAAAGCCTACTC
CACCGATTCCAATATGTTGGGTGCCACCCACGAAGCCAAAGACTTGGAATTTTTGAACTC
GGGCATCAAAATCGTCAAACCCATTATGGGCGTTGCCTTTTGGGACGAAAACGTCGAAGT
CAGCCCGGAAGAAGTCAGCGTACGCTTTGAAGAAGGCGTGCCGGTTGCACTAAACGGCAA
AGAATACGCCGATCCCGTCGAACTCTTCCTCGAAGCCAACCGCATCGGCGGCCGCCACGG
CTTGGGTATGAGCGACCAAATCGAAAACCGCATCATCGAAGCCAAATCGCGCGGCATCTA
CGAAGCCCCGGGTATGGCGTTGTTCCACATCGCCTACGAGCGTTTGGTCACCGGCATCCA
CAACGAAGACACCATCGAACAATACCGCATCAACGGCCTGCGCCTCGGCCGCCTGCTCTA
CCAAGGCCGCTGGTTCGACAGCCAAGCCCTGATGTTGCGCGAAACCGCACAACGCTGGGT
TGCCAAAGCCGTTACCGGCGAAGTTACCCTCGAACTGCGGCGCGGCAACGACTACTCAAT
TCTGAACACCGAATCGCCCAACCTGACCTACCAACCTGAGTTGGATGGAAAAAGT
CGAAGACGCTGCGTTCACTCCGCTCGACCGCATCGGACAGCTCACGATGCGCAACCTCGA
CATCACCGACACCCGCGTCAAACTGGGTATCTACTCGCAAAGCGGTTTGCTCTCGCTGGG
CGAAGGTTCGGTATTGCCGCAGTTGGGCAATAAGCAATAAGGTTTGCTGTTTTACATCAT
TAGCAACTTAAGGGGTCGTCTGAAAAGATGATCCCTTATGTTAAAAGGAATCCTATGAAA
GAATACAAAGTCATCATTTATCAGGAAAGCCTGTTGTCCAGCCTGTTTTTCGGCGCGGCA
AAGGTCAACCCCATCAAATTCAGCGAGTTCCTCAATAAACAAACCCCCGAAGGCTGGCGG
GTTGTAACGATGGAAAAAGATTTGCGCCGTATGCTGCTGTTTTTCAAACGCGAGGCCTAC
GTCGTCATTTTGGAGCGGGATCGTGTTTAAGCTCGGCGTTTATACCTGTCTCGGACTGTT
TGCCGGCTGGGTGCTGCTGCTGATCGTGCAACTCTGGTTTTCTTTTCTCGAAGCGGAATT
GTTCTTCAAAATCACACTGACTATGGCGGGGCTGTTTGTCATCATCCTCGCCGCCTTACT
GGTATGCGGTCAGTATTTTTCCGAAAAGAAAATGAAAGACGACGGGTTTATCAACTGATG
CGGACTTGAACCGGACCCGCGACCCAAACATCACAATGCCGTCTGAACGCCCTCGCTTCA
GACGGCATCAACATCAATCCTGCTCTTTTTTGCCGGCAAACACGCCGAATCCGCCCTTTT
CCGCATCTGTCGGGCGATAGCTGTATTTTCCCGCCACTTCCTCGCCGGCCGGGCCGTAAA
ACTTTCCGGAAACATCCCCGCTGCCATTTTCCGTCCAAGTCCCCTTAAAGCCGTTTCCAT
CGATGGCGGCTTTGAATTTTTGCGTACCCATATGCAAATCATCGCCGCTGTCGATAATGC
CGTCCACAGATTTGCTGCCGAAATCGACTTTTGCGGCAAACCTGCCCCTGGTCGGGTACG
GACGGCGTTTCCGTATGGAAATGCAGTACTTCGCCGTTGTACACGGCCGCGCCCGCAA
GCATTTCGCCTTTTGCCGGTTCGCCTTGAACACGAAGGGCATACGATCCGCCGGGCAATT
TTTCCGCCCCGTAAGTCAGATACCGGTAATTCCCTTCGGGCGCGAAGATATTGCCGGAAT
GCCCCGTCAGGCTGACCGCTTCCCCATCGACAATCAGCGTATCCGCCTGATTGACGGGAA
TCAGCGGCATCTCGGCCGGAAGCGACCGCCTCGACCGTGCAGAACGCCTAAATCGCGCAA
ATGAAGTGGGTTTAGGTTTATAAAAGATAATATATTGATTGATTCCCTTCATCTGCACAC
TATCGGCAACCAAACCGACAAATTTATCATTCTTCCCATCTTTCTTGTAATTACTTATTT
TGTCTGCATCACTTAATTTTTCAAATTCTGATTTTAGCTGTACTTCTTCATCCAAGAAAT
TATTGCCACTACAAGAATCGCCTTTACAGTGGGTCAACGTTATATTTTCGACGCGCCCGT
CAATCAAAACGCCATTAGCCAAATCAACCCTTCCAAAATTGCTACCGCCATTCGCAGGTG
CAGGGTTTGACGCGGGGATGGGATCTGAAGAACCGGCGGCTTGATTGTTTCCGGCTTGAT
TTGCACCTTGGGCAGCCGTATTGCCGGCATTTTGCCCGCCTGCCGACGGATCGTCCCCCT
GCATTCCGTCCGCCGCATTTGCCATATCCGGTTGGTTTGCCGGCTGAGACGATTCCCCGG
CATCCGTTGCTTGATTTTCCATATTTCCGGCAAGCATATTCCGGATCCGGGGTGTGATTCG
GTGTCGAACTATCGTACCGGCGGCATTTTGCGGCATATCATTTTGTGCCACCTCGTCTT
CATTTTTGGGATTATCCGCTGTTACCGCACCGCCATTGCCTGTATTTTCTTCCGAAACCG
CCGCCATATCTTGACTGCCTTGTGCGGATGGCGCGCCCTGTCCTTGAGAACCTGCCTGTG
GCGCATCTTCCTTTGCCTCTGTCTCTTTTTCAGAAACAACAGGGGCGGCAGGTTTTGACA
GCGTGTCCGCCGACTTGACATCGGGCGATCCGCCACCGCCGCCCCCGCAGGCTGAAAGGG
CAAAAATACAAGCCATTGCGATTACGCTGCGTTTAAACATCATCATCTCCTTCATCGTAT
TTCCTTTTTGGTTTAAACCCCGCCACTTGGACATCCGTCCTTCGGGGCGGTGGAATCAGC
TTTATTTGGGAAGAGCGCAACCTTTCCAAATCAGGGCGACACATAGGGCTGTGCTTTATG
TGCCGCCCTGTGTGTTGAAACATATTCAATAAATATTGTTTCCGCCGTATGCCTATAAAA
TTGTAAAAATATGCCGTCTGAACGCCAAACGGGCTTCAGACGGCATAGCTTGGTTTATTC
CGCCCGGTTCCTCTGTCGGCCCAAATCGGCGGCAGCGGTAAACAAAACGTCGGTCGAAGA
GTTCAGCGCAGTTTCCGCCGAATCCTGAATCACGCCGATAATGAAGCCGACGGCAACCAC
CTGCATGGCCACATCGTTATCGATACCGAACAGGCTGCACGCCAAAGGAATCAGCAGCAA
CGAGCCACCGGCCACACCGGATGCACCGCACGCGCTAACGGTAGCCACCAGGCTCAGCAG
```

Appendix A   -499-

CAGGGCAGTGGCGAAGTCAACCGTAATGCCTTGCGTGTGCGCCGCAGCCATCGCCAAAAC
GGTAATGGTGATTGCCGCACCGGCCATATTGATGGTTGCACCCAATGGAATGGAGATGGA
GTAAGTGTCTTCGTGCAAACCCAGCTTTTTCGCCAATGCCATGTTCACAGGGATATTGGC
GGCGGAAGAACGGGTAAAGAAGGCATAAACGCCACTTTCACGCAGGCAGGTAAACACCAG
CGGGAAAGGGTTGCGGCGGATTTTCCACCACACGATGGCGGGATTGACCGCCAGCGCGAT
AAACGCCATACAGCCCAACAGCACTGCAAGCAGCTTCGCGTACCCCGCCAGCGCGCCGAA
ACCCGTCTCCGCGATTGTGGACGACACCAGCCCGAAAATGCCCAAAGGGGCAAAACGGAT
AATCCATTTCACGACGGTGGAAACCGCTTCCGCCAAATCGGCAACGACCTGCCGCGTAAC
GTCCGAACCGTGATTCCGCAACGCCGCGCCCAAAACCAAAGCCCAAGCCAAAATGCCGAT
ATAGTTGGCATTGGCAATCGCGTTAATCGGGTTGGCGACCAGGTTCATCAGCAGCGATTT
CAATACTTCCACAATGCCGGAAGGCGGCCGGCGGACACATCGCCCGCGCCCGCCAAAAC
AATGTGCGTCGGGAAAACCATACCGGCGATGACGGCGGTCAGGGCTGCCGGAAAACGTACC
GATGAGGTAAAGGACGATAATCGGCCTGATATGCGCCTTGTTGCCTTTTTGGTGCTGCGC
GATTGTGGCCGCCACCAAAATAAATACCAAAACCGGCGCGACCGCTTTGAGCGCACCGAC
AAACAGGCTGCCGAACAAGCCTGCCGCCAAGCCCAGTTGCGGGGAAACCGAACCGATTAC
GATGCCCAACGCCAAACCGGCGGCAATCTGCCTGACCAGGCTGACGCGGCCGATCGCATG
AAATAAGGATTTGCCGAACGCCATAATTCTTCCTTATGTTGTGATATGTTAAAAAATGTT
GTATTTTAAAAGAAAACTCATTCTCTGTGTTTTTTTTTATTTTCCGGCTGTATTTTATAG
TGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAAACAGTACGGAAC
CGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAA
CGCCGTACTGGTTTTTGTTAATCCACTATAAGGTTGCGTTGATTTGCCCTATGCAGTAGT
GCCGGACAGGCTTTGCTTTATCATTCGGCGCGACGGTTTAATTTATTGAACGAAAATAAA
TTTATTTAATCCTGCCTATTTTCCGACACTATTCCGAAACGCAGCCTGTTTTCCATATGC
GGATTAGAAACAAAATACCTTAAAACAAGCAGATACATTTCCGGCGGGCCGCAACCTCCG
AAATACCGGCGGCAGTATGCCGTCTGAAGCGTCCCGCCCCGTCCGAACAGTGTTAAAATC
GAAAGCCGCCACACCGATGCACGACACCCGTACCATGATGCAAACCGACCGCCCTGCT
CCTGCCGGCTTTATTTTTCTTTCCGCACGCATACGCGCCTGCCGCCGACCTTTCCGAAAA
CAAGGCGGCGGGTTTCGCATTGTTCAAAAACAAAAGCCCCGACACCGAATCAGTCAAATT
AAAACCCAAATTCCCCGTCCTCATCGACACGCAGGACAGTGAAATCAAAGATATGGTCGA
AGAACACCTGCCGCTCATCACGCAGCAGCAGGAAGAAGTATTGGACAAGGAACAGACGGG
CTTCCTCGCCGAAGAAGCGCCGGACAACGTTAAAACGATGCTCCGCAGCAAAGGCTATTT
CAGCAGCAAAGTCAGCCTGACGGAAAAAGACGGAGCTTATACGGTACACATCACACCGGG
CCCGCGCACCAAAATCGCCAACGTCGGCGTCGCCATCCTCGGCGACATCCTTTCAGACGG
CAACCTCGCCGAATACTACCGCAACGCGCTGGAAAACTGGCAGCAGCCGGTAGGCAGCGA
TTTCGATCAGGACAGTTGGGAAAACAGCAAAACTTCCGTCCTCGGCGCGGTAACGCGCAA
AGCCTACCCGCTTGCCAAGCTCGGCAATACGCAGGCGGCCGTCAACCCCGATACCGCCAC
CGCCGATTTGAACGTCGTCGTGGACAGCGGCCGCCCCATCGCCTTCGGCGACTTTGAAAT
CACCGGCACACAGCGTTACCCCGAACAAATCGTCTCCGGCCTTGCGCGTTTCCAGCCCGG
TATGCCGTACGACCTCGACCTGCTGCTCGACTTCCAACAGGCGCTCGAACAAAACGGGCA
TTATTCCGGCGCGTCCGTACAAGCCGACTTCGACCGCCTCCAAGGCGACCGCGTCCCCGT
CAAAGTCAGCGTAACCGAGGTCAAACGCCACAAACTCCAAACCTCCGATTC
GGAATACGGTTTGGGCGGCAAAATCGCCTACGACTATTACAACCTCTTCAACAAAGGCTA
TATCGGTTCGGTCGTCTGGGATATGGACAAATACGAAACCACGCTTGCCGCCGGCATCAG
CCAGCCGCGCAACTATCGGGGCAACTACTGGACAAGCAACGTTTCCTACAACCGTTCGAC
CACCCAAAACCTCGAAAAACGCGCCTTCTCCGGCGGCGTCTGGTATGTCGCGCGACCGCGC
GGGCATCGATGCCAGGCTGGGGGCGGAATTTCTCGCAGAAGGCCGGAAAATCCCCGGCTC
GGCTGTCGATTTGGGCAACAGCCACGCCACGATGCTGACCGCCTCTTGGAAACGCCAGCT
GCTCAACAACGTGCTGCATCCCGAAAACGGCCATTACCTCGACGGCAAAATCGGTACGAC
TTTGGGCACATTCCTGTCCTCCACCGCGCTGATCCGCACCTCTGCCCGTGCAGGTTATTT
CTTCACGCCCGAAAACAAAAAAACTCGGCACGTTCATCATACGCGGACAAGCGGGTTACAC
CGTTGCCCGCGACAATGCCGACGTTCCTTCAGGGCGTGATGTTCCGCAGCGGCGGCGCGTC
TTCCGTGCGCGGTTACGAACTCGACAGCATCGGACTTGCCGGCCCGAACGGATCGGTCCT
GCCCGAACGCGCCCTCCTGGTGGGCAGCCTGGAATACCAACTGCCGTTTACGCGCACCCT
TTCCGGCGCGGTGTTCCACGATATGGGCGATGCCGCCGCCAATTTCAAACGTATGAAGCT
GAAACACGGTTCGGGACTGGGCGTGCGCTGGTTCAGCCCGCTTGCGCCGTTTTCCTTCGA
CATCGCCTACGGGCACAGCGATAAGAAAATCCGCTGGCACATCAGCTTGGGAACGCGCTT
CTAAACCGATATGGCCACTTCAGACGGCATTGCAGCAAACCATTTTGAAACAGACATTAT
GACCGATACCGCACCGACAGATACCGATCCGACCGAAAACGGCACGCGCAAAATGCCGTC
TGAACACCGCCCTACCCCGCCGGCAAAAAAACGCCGCCCGTTGCTGAAGCTGTCGGCGGC
ACTGCTGTCTGTCCTGATTTTGGCAGTATGTTTCCTCGGCTGGCTCGCCGGTACGGAAGC
AGGTTTGCGCTTCGGGCTGTACCAAATCCCGTCTTGGTTCGGCGTAAACATTTCCTCCCA
AAAACCTCAAAGGCACGCTGCTCGACGGCTTCGACGGCGACAACTGGTCGATAGAAACCGA
GGGGGCAGACCTTAAAATCAGCCGCTTCCGCTTCGCGTGGAAACCGTCCGAACTGATGCG
CCGCAGCCTGCACATTACCGAAATTTCCGCCGGCCACATCGCCATCGTTACCAAACCGAC
TCCGCCTAAAGAAGAACGCCCGCCGCTCAGCCTTCCCGACAGCATAGACCTGCCTGCCGC
CGTCTATCTCGACCGCTTCGAGACGGGCAAAATCAGCATGGGCAAAGCCTTTGACAAACA
AACCGTCTATCTCGAACGGCTGGATGCTTCATACCGTTACGACCGCAAAGGACACCGCCT
TGACCTGAAGGCCGCCGACACGCCGTGGAGCAGTTCGTCGGGGGGCGGCCTCGGTCGGCTT
GAAAAAACCGTTTGCCCTCGATACCGCCATTTACACCAAAGGCGGACTCGAAGGCAAAAC
CATACACAGTACGGCTCGGCTGAGCGGCAGCCTGAAGGATGTGCGCGCCGAACTGGCGAT
CGACGGCGGCAATATCCGCCTCTCGGGAAAATCCGTCATCCACCCGTTTGCCGAATCATT
GGATAAAACATTGGAAGAAGTACTGGTCAAAGGGTTCAACATCAATCCGGCCGCCTTCGT
GCCTTCCCTGCCCGATGCCGGACTGAATTTCGACCTGACCGCCATCCCGTCGTTTTCAGA
CGGCATCGCGCTGGAAGGTTCGCTCGATTTGGAAAACACCAAAGCCGGCTTTGCCGACCG
CAACGGCATCCCCGTCCGTCAGGTTTTAGGCGGCTTTGTCATCCGGCAGGACGGCACGGT

Appendix A　　　　　　　　　　　　-500-

```
GCATATCGGCAATACGTCCGCCGCCCTGCTCGGACGGGGCGGCATCAGGCTGTCGGGCAA
AATCGACACCGAAAAAGACATCCTCGATTTAAATATAGGCATCAACTCCGTCGGCGCGGA
AGACGTACTGCAAACCGCGTTCAAAGGCAGGTTGGACGGCAGCATCGGCATCGGTGGCAC
GACCGCCTCGCCCAAAATCTCTTGGCAACTCGGCATCGGCACGGCGCGCACGGACGGCAG
CCTCGCCATTGCAAGCGACCCAGCAAACGGACAGCGGAAACTGGTGCTCGACACCGTCAA
CATCGCCGCCGGGCAAGGCAGCCTGACCGCGCAAGGCTATCTCGAGCTGTTTAAAGACCG
CCTGCTCAAGCTGGACATCCGTTCCCGCGCATTCGACCCTTCGCGCATCGATCCGCAACT
TCCGGCAGGCAATATCAACGGCTCAATAAACCTTGCCGGCGAACTGGCAAAAGAGAAATT
CACAGGCAAAATGCGGTTTTTACCCGGCACGTTCAACGGCGTACCGATTGCCGGCAGTGC
CGACATTGTTTACGAGTCCCGCCACCTTCCGCGTGCCGCCGTCGATTTGCGGCTGGGGCG
GAACATTATTAAAACAGACGGCGGCTTCGGCAAAAAAGGCGACCGGCTTAACCTCAATAT
CACCGCACCCGATTTATCCCGTTTCGGTTTCGGACTCGCGGGGTCTTTAAATGTACGCGG
ACACCTTTCCGGTGATTTGGACGGCGGCATCCGAACCTTTGAAACCGACCTTTCCGGCGC
GGCGCGCAACCTGCACATCGGCAAGGCGGCAGACATCCGTTCGCTCGATTTCACGCTCAA
AGGTTCGCCCGACACAAGCCGCCCGATACGCGCCGACATCAAAGGCAGCCGCCTTTCGCT
GTCGGGCGGAGCGGCGGTTGTCGATACCGCCGACCTGATGCTGGACGGCACGGGCGTGCA
GCACCGCATCCGCACACACGCCGCCATGACGCTGGATGGCAAACCGTTCAAATTCGATTT
GGACGCTTCAGGCGGCATCAACAGGGAACTTACCCGATGGAAAGGCAGCATCGGCATCCT
CGACATCGGCGGCGCATTCAACCTCAAGCTGCAAAACCGTATGACGCTCGAAGCCGGTGC
GGAACGCGTGGCGGCAAGTGCGGCAAATTGGCAGGCAATGGGCGGCAGCCTCAACCTGCA
ACACTTTTCTTGGGATAAAAAAACCGGCATATCGGCAAAAGGCGGCGCACACGGTCTGCA
TATCGCCGAGTTGCACAATTTCTTCAAACCGCCCTTCGAACACAATCTGGTTTTAAACGG
CGACTGGGATGTCGCCTACGGGCGCAACGCGCGCGGCTACCTCAATATCAGCCGGCAAAG
CGGCGATGCCGTATTGCCCGGCGGGCAGGCTTTGGGTTGAACGCATTTTCCCTGCAAAAC
GCGCTTTCAAAACGACCGCATCGGAATCCTGCTTGACGGCGGCGCGCGTTTCGGGCGGAT
TAACGCCGATTTGGGCATCGCCAACGCCTTCGGCGGCAATATGGCAAATGCACCGCTCGG
CGGCAGGATTACCGCCTCCCTTCCCGACTTGGGCGCATTGAAGCCCTTTCTGCCCGCCGC
CGCGCAAAACATTACCGGCAGCCTGAATGCCGCCGCGCAAATCGGCGGACGGGTAGGCTC
TCCGTCCGTCAATGCCGCCGTCAACGGCAGCAGCAACTACGGGAAAATCAACGGCAACAT
CACCGTCGGGCAAAGCCGCTCTTTCGATACCGCGCCTTTGGGCGGCAGGCTCAACCTGAC
CGTTGCCGATGCCGAAGTATTCCGCAACTTCCTACCGGTCGGACAAACCGTCAAAGGCAG
CCTGAATGCCGCCGTAACCCTCGGCGGCAGCATCGCCGATCCGCACTTGGGCGGCAGCAT
CAACGGCGACAAACTCTATTACCGCAACCAAACCCAAGGCATCATCTTGGACAACGGCTC
GCTGCGTTCGCATATCGCGGGCAGGAAATGGGTAATCGACAGCCTGAAATTCCGGCACGA
AGGGACGGCGGAACTCTCCGGTACGGTCGGTATGATGGAAACAGCGGACCCGATGTCGATAT
CGGCGCGGTGTTCGACAAATACCGCATCCTGTCCCGCCCCAACCGCCGCCTGACGGTTTC
CGGCAACACCCGCCTGCGCTATTCGCCGCAAAAAGGCATATCCGTTACCGGGATGATTAA
AACGGATCAGGGGCTGTTCGGTTCGCAAAAATCCTCGATGCCGTCCGTCGGCGACGATGT
CGTCGTATTAGGCGAAGTCAAAAAAGAGGCGGCGGCACCGCTCCCCGTCAATATGAACCT
GACTTTAGACCTCAATGACGGCATCCGCTTCGCCGGCTACGGCGCGGACGTTACCATAGG
CGGCAAACTGACCCTGACCGCCCAATCGGGCGGAAGCGTACGGGGCGTGGGCACGGTCCG
CGTCATCAAAGGGCGTTATAAGGCATACGGGCAGGATTTGGACATTACCAAAGGCACGGT
CTCCTTTGTCGGCCCGCTCAACGATCCCAACCTCAACATCCGCGCCGAACGCCGCCTTTC
CCCCGTCGGTGCGGGCGTGGAAATATTGGGCAGCCTCAACAGCCCGCGCATTACGCTGAC
GGCAAACGAACCGATGAGTGAAAAAGACAAGCTCTCTTGGCTCATCCTCAACCGCGCCGG
CAGCGGCAGCAGCGGCGACAATGCCGCCCTGTCTGCAGCCGCAGGTGCGCTGCTTGCCGG
GCAAATCAACGACCGCATCGGGCTGGTGGATGATTTGGGCTTTACCAGCAAGCGCAGCCG
CAACGCGCAAACCGGCGAACTCAACCCCGCCGAACAGGTGCTGACCGTCGGCAAACAACT
GACCGGCAAACTCTACATCGGCTACGAATACAGCATCTCCAGCGCGGAACAGTCCGTCAA
ACTGATTTACCGGCTGACCCGCGCCATACAGGCGGTTGCCCGTATCGGCAGCCGTTCGTC
GGGCGGCGAGCTGACATACACCATACGTTTCGACCGCTTCTCCGGTTCGGACAAAAAAGA
CTCCGCCGGAAACGGCAAAGGAAAATAAGCGGTTTTCAGACGGCGCGCCGCCAAACCGGA
CATTTGAAAACCTGCTTTTCCACCGTCCGCCGCCGCCGTCCGCCTGCAAGGGAACAGAAT
CGATATAGTGAATTAACAAAAATCAGGATAAGGCGACGAAGCCGCAGACAGTACAAATAG
TACGGAACCGATTCACTCGGTGCTTGAGCACCTTAGAGAATCGTTCTCTTTGAGCCAAGG
CGAGGCAACGCCGTACCGGTTTTTGTTAATCCGCTATATTCCGCCATCTCTAAGATTTAC
AGCGATACACAGGTAATTTAAGGAATGCCCGAACCGTCATTCCCGCCACTTTCCGTCATT
CCCGCGAAAGCGGGAATCTAGGACGCAGGGTTAAGAAAACCTACATCCCGTCATTCCCGC
GAAAGTGGGAATCTAGAAATGAAAAGCAACAGGCATTTATCGGAAATAACTGAAACCGAA
CAGACTAGATTCCCGCCTGCGCGGGAATGACGGCTGCAGATGCCCGACGGTCTTTATAGC
GGATTAACAAAAATCAGGATAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACC
GATTCACTCGGTGCTTGAGCACCTTAGAGAATCGTTCTCTTTGAGCCAAGGCGAGGCAAC
GCCGTACCGGTTTTTGTTAATCCGCTATATTCCGCCATCTCTAAGATTTACAGCGATACA
CAGGTAATTTAAGGAATGCCCGAACCGTCATTCCCGCCACTTTCCGTCATTCCCGCAAAA
GCGGGAATCTAGAATCTCGGACTTTCAGATAATCTTTGAATATTGCTGTTGTTCTAAGGT
CTAGATTCCCGCCTGCGCGGGAATGACGATTCATAAGTTTCCCGAAATTCCAACATAACC
GAAACCTGACAGTAACCGTAGCAACTGAACCGTCATTCCCACGAAAGTGGGAATCTAGAA
ATGAAAAGCAACAGGCATTTATCGGAAATAACTGAAACCGAACAGACTAGATTCCCGCCT
GCGCGGGAATGACGGCTGCAGATGCCCGACGGTCTTTATAGCGGATTAACAAAAATCAGG
ACAAGGCGGCGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTCGGTGCTTCA
GCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTT
AATCCTCTATAATGCGCCCTTCGGCGTGGCGGATATATAAGGAAGTGATTTTCCATCTAA
GTAAAAACCGCCCTATCGGATAAGCCCTTAACAGAAAAGGCTTTACCCGCGCCGTATCGG
AACACATCCTCTAAAATACAATCCGTTGAATTGAAAAAAATATAAAAACATCCGCCCGCG
AAAAACGGCAGCGCGTCGTTTGACAAAGAATGAAAATATCGGTTAAAAACCGATTTTCAT
```

Appendix A   -501-

```
ACAAAAAACACCGCTGCCGTCCGCATCCGTTTCAGACGGTATTGAGAGAAAATCTTTTAG
GAGAACCTTTATGTCCCGGCATCCCGCCCCCACCGGAGAAAAAACATTCTTCGGCCACCC
CTTCCAGCTTTCCACCCTCTTCCATATCGAATTGTGGGAACGTTTTTCATTTTACGGAAT
GCAGGGCATCCTGCTGATTTACCTCTACTACACCGCCGACAAAGGCGGCTTGGGCATAGA
CAAAACCCTCGCCGGCGGCATTGTCGGCGCATACAGCGGCAGCGTGTACCTGTCCACCAT
TTTGGGGGCGTGGTTTGCGACCGAGTATGGGGTGCGGAAAAAACCCTCTTCCTCTCGGG
CATCGTCGTGATGCTCGGACACATCGTCCTTGCCGCCGCCCCGGGCCTGTACGGCCTTTT
AATCGGGCTGATATTCATCGCATTGGGCAGCGGCGGCGTGAAATCTACGGCCAGTTCTAT
GGTGGGCGCATTATACGAACAGGACGAAATGCGCCCGCTGCGCGATGCGGGATTTTCCAT
TTTCTACATCGCCATCAACATCGGCGGCTTCCTAGGCCCGCTGCTGACCGGCCTACTGCA
GGAAAACATCGGTTTCCATTATGGTTTCGGCGCGGCGGCGGTCGGTATGGCATTCGGCTT
GTGGCGTTATTCCCTGGGACGTAAAAACCTGCCCCACCCCACCGTCCCCATCCGCTTTC
AAAAGGACAGGGCAAAACTGCGGCCGCCGTCGGCATCGCCCTCATCGCCGCACTTGCAAC
CGCCATCAAAACCGGGCTTGTCAACCTCGACAATTTCTCCGGCATCCTATTATCTACCGT
CATCCTTGCCGTCATCGCCTATTTCGCCCGCCTGCTGACCAACCCCCGCGTCAGTTCCGA
CAACAAACGGCACATCATCGCCTACATCCCGCTTTTCCTGACCATCTGTATGTTTTGGGC
CGTCTGGTTTCAGATTTACACCGTGGCAACCGTCTATTTCGACGAAACCGTCAACCGCAC
CATCGGTTCGTTTACCGTGCCCGTCGCTTGGAAAGATTCTATGCAAAGCCTGTGGGTCAT
CCTGTTTTCCGGACTGATGGCGGCAATGTGGACAAAAATGGGCGCCAAACAGCCCAAAAC
CCCGCTGAAATTCGCTATGGCGGTATTTGTTACCGGCGCGTCGTTTTTGGGATTCGTCCC
CTTTATTTCCTCCGGTACGCCGATGCCTATTGCGGTTTTCGCACTGATCGTCCTCGCCAT
CACGATAGGCGAACTGATGATTTCCCCGATTGCGCTGTCCATCTCCACCAAAATCGCACC
GCCTTTATTCAAAACCCAAATGGTCGCCCTTAATTTCCTTGCCTTTTCATTAGGCTTCAC
TTTGGGCGGCGTATTGTTTGAAAAAGGCTATCAGGCGGGCGACGAAATCGGCTTCTATCG
GCTGCTGTTCTACATCGGCGCAGCCACAGGCTTCCTGCTGCTCCTGCTCGTCCCCAAATT
GAACAAAATGCTCGAAGGCACAGACTAAGTCCCGCCCCGATGCCGTCTGAACCCTTCAGA
CGGCATTTTTCCGCATAATGAAACCAAACCGTTTCCACCCGACAGGACAGGCTCCCGCCC
AACCGGAAGGCAGCCTGCCGATTGTCATTTGAATAACGCAAGGGAAAGCCGTTGATTTCC
GTTTGTATGGAAACAGTTTGGTTTCATTGGAAAAAGGCATTTTGTCCGACTAAATTAGTG
CTGCATCAACGAAATATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAG
ACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTGAGCACCTTAGAGAATCGTTCT
CTTTGAGCTAAGGCGAGGCAACGCCGTACCGGTTTTTGTTAATCCACTATAAAAACACAA
CCTAAATAAAAATGCCGTCTGAACCATATTTCAGGTTTCAGACGACATTTGCGTGTCGGA
TGCACACCGGACAGGCGGTAAGCCGGGTTCGTCTCGGACAGTCATTCCTCTAGGCATAC
CGTTACCGGTATGCTCAAGCAACCTACCCGAACGCTCGGCGGGCAGCGTCATTGCGTTCT
GTTTGGTCTTGCTCCGAATGGGGTTTGGCCTGCCGCATATTGTTACCAAATGCGCGGTGC
GCCCTTACCGCACCTTTTCACCCTTACCTGTGCTGCCAAAGCAGCCATCGGCGGTTTTGC
TTTCTGTTCCACTTTCCGTCGCGTTACCGCGCCCGGCCGTTAACCGGCATTCTACCCTGC
GGAGCCCGGACTTTCCTCCCCGTATGCCTTACGCGATACGCGGCGACTGTCTGCCCGTCC
CGTGTGCGGCGCGGATTATAACACGAAACACAAAAATGCCGTCTGAAACGGTACAGGTTT
CAGACGGCATACAGCCTAAACTACACGCCCTGTTTCAGGCTGGCTTCGATGAAGCCGTCC
AAGTCGCCATCCAATACGGCTTTGGTGTTGCCGACTTCGTAGCCTGTACGCAAGTCTTTG
ATACGTGAGGAATCCAAAACATACGAACGGATTTGGCTGCCCCAACCTACATCGGATTTA
CCTTCTTCCAACGCCTGTTTCTCTTCATTGCGTTTGCGCATTTCCAATTCATACAGTTTG
GACTTCAACATTTCCATCGCAGCGGCTTTGTTGGCGTGTTGCGAACGGTCGTTTTGACAT
TGCACCACAATCCCCGTCGGCTCGTGGGTAATGCGCACGGCGGAGTCGGTTTTATTGATG
TGCTGACCGCCCGCCACCCGATGCGCGATAGGTGTCGATGCGCAAATCGGCGGGGTTGATT
TCGATTTCGATGGAATCGTCGATTTCAGGGTAAACGAACACGGAGGCAAACGAGGTATGG
CGTTTGTTGTTCGAGTCAAACGGCGAGTAACGCACCAAGCGGTGAACGCCGGTTTCGGTA
CGCAGCAAACCATAAGCGTATTCGCCTTCCACACGGATGGTGGCGCGGTTGATGCCTGCG
ATTTCGCCGTCGTCTTCTTCAAGGATTTCGATTCTGAAGCCTTTGCGCTCGGCGTAGCGG
CTGTACATACGGAACAGCATACCCGCCCAGTCTTCCGCTTCCGTACCGCCCGCGCCTGCG
GTGATGTCGATAAAGCAGTTGTTCGGGTCGGCGGGCTGGTTGAACATCCGTTTGAACTCC
AAATCCGCCATCTGTTTTTCCAGCCCCGCTACGTCTTCCTGCACGGCGGCAAAACCTTCT
TCGTCGTTTTCTTCGACGGTCATTTCAATCAGCATGCGGTTGTCTTCGATGCCCGAAGCG
ATGTTGTCGAGCGTCAACACGATGCCTTCGAGGATTTTGCGCTCTTTGCCGATTTCTTGG
GCGCGTTTCGGGTCGTTCCAAAGTTCGGGGTCTTCGGAAAGACCGATAACTTCTTCCAAT
CGGTCTTTCTTACCCTGATAATCCATATAAACTCGGATGTCTTCGCTCGCGCTTTTCCAAA
TCGTTCAGGGTATTGTTGAGCTGGTTGATTACTTCGGCTTCCATGATTCTTTTGTTCTTT
CAAAATTTTAGGGGCGTATTGTACGGGATTCGGGTATTTTTTCTATGGATAAAGCCTTC
TGGAAACACGTTCAGACGGCATAGCGTCAATAACGGTATGCCGCCAGTTTGCGTTTGATT
TCAGGCAATGCGGCACGTGCTGCCTCCTCACCCAACCGGATGGCGCGTTTTTTCTGATCG
AATCCGCCGACTGCACCCAAATCCAAAACCTGCGGTTTGATAACCACATCCGCCTGCCCC
AACTCATTTTGCAACGCAGAAACGCTCATTACGTTCAGCGTCTGATCGAGATAAGAGAAG
AAACCTTGGCTGATGTTTTTGCCCGGACGGGCGGAAATATCGACGGCAATCACGAAATTC
GCCCCCTGCCGCCGGGCGGCACTGACGGGCACGGGCTGCGACAGACCGCCGTCAACATAT
GTATGCCTGCCGATGATAACGGGTTGGAACACATTGGGAATGGCGGCGGAAGCGCGCACA
GCCTGCCCGGCATTCCCCTGATTGAAAGCGACGGCCTTGCCGGTTTCAAAATCAGTAGCA
ACGGCGGCAAATTTGATGGGAAACTGCTGAATCTGCCTGCCGCCGACTTTTCGGTTGATG
TAATTTTGCAGCTTTTCGCCTTTGATAAAACCACTGGTGGACAAGGTTAAATCGACCAAA
TCGGTTTTGCCTAAAATTTCGGCTTCCAATTCGAGGCGGTCGGGCGACATACCCGATGCA
AAAAGGCTGCCGACAATCGAACCTGCCGATGTGCCGGTAACCACCTTCACAGGAATACCG
TTTTCTTTCAAAACCTTAATAATACCTACATGGGCAAATCCTTTAGATGCGCCGCCACCG
AGTGCCAAACCGACCACTGCGGCGGGTTTGGCGGTTTGCACCGGCTTGCGGACAGCATTA
TTTCCCGCCGTGCCGCAGGCGGCAAGCAACGCGGCGGCGGCGATTGCCAAAAGCGGTCTG
```

Appendix A   -502-

```
ATTTTTGAAAACGTTACCATATTTTCCATTCCTTTATATATCGCACCCCGTCAAAAAGAG
GGATTGCTTTTCTTAACACCCCCCTTTGACAGCCAAGCAAATGGGGGCTTTGTTAAGTCA
TCATCAAAATTAATATTTCTTTTTTTTTTCCTTTACGGAAATTATATTTGAAGGCATACT
ATCCAAGGCGGGAATTATCTCACAACACCGCCGTTATCCAAATATCCCGCCTTTTTCCCT
TTCTTTCCATCAAAATACTTTCTTTTTATATTCATTAACTTGTTAAATCATTGGCTGCCG
GGTGTCAGTTTTTCCGACAAAATCCGTCTAATGGGGTATCAACAGAACCAAAACAGGAAC
ACTTATGAAAATCGGAACAACTTGGCAGACGGCATCCGCTATGCTGGTTTTGCGTCTGTT
TGCCGCATATGAATTTTTGGAATCGGGTTTGCAAAAATGGAACGGGGAGAATTGGTTTTC
CGAAATCAACGATCAGTTTCCATTCCCGTTCAACTTGCTGCCGGACGCGTTAAACTGGAA
TCTCGCCATGTATGCGGAGCTTTTGCTGCCCGTATTGTTGCTTTTGGGTTTGGCAACGCG
TCTGTCGGCATTGGGGCTGATGGTCGTTACCGCCGTCGCTTGGGCTGCCGGTTCACGCCGG
TTCGGGTTACAATGTCTGCGACAACGGTTATAAAATGGCTTTAATTTATATCGTGGTATT
AATCCCGCTGCTTTTCCAGGGTGCGGGCGGATGGTCGCTGGATACGCTGCTGAAAAAACG
GTTTTGCCCCGATGCCGTCTGAAACAAGATTGATTCAGTCGTGGAATCTGACTTTAAAC
ATTCCAACCTTATCTCGTTAACTTGATATTTTGAAAAGGAAATGACATGAACAAAAACAT
TGCTGCCGCTCTCGCCGGTGCTTTATCCCTGTCTTTGGCCGCCGGTGCAGTTGCTGCCAA
CAAACCGGCAAGCAACGCAACAGGCGTTCATAAATCCGCCCATGGCTCTTGCGGCGCGTC
CAAATCTGCCGAAGGTTCGTGCGGCGCGGCTGGTTCTAAAGCAGGCGAAGGCAAATGCGG
CGAGGGCAAATGCGGTGCGACCGTAAAAAAAACCCACAAACACACCAAAGCATCTAAAGC
CAAGGCCAAATCTGCCGAAGGCAAATGCGGCGAAGGCAAATGCGGTTCTAAATAATCCCA
CCCCTTCAAACCAAGCCGCGTTTTTCAGTAAAATGCGGCTTTTTTAACGGCAAACAAAGA
TTTTTTAACAAGCACATCATTCTTTTGTGCCATCCGAACCGGGTAAAAATATGATTCAAC
ACGCAGGCTTGGGCTACCGCCGCGACTTGGCGGAAGACTTTCTCTCGCTTTCCGAAAACA
GCCCGATATGCTTTATCGAAGCCGCACCGGAAAACTGGCTGAAAATGGGCGGCTGGGCGC
GCAAACAGTTTGACCGTGTGGCGGAACGGCTGCCGCTGGCGTTGCACGGATTGTCTATGT
CGCTGGGCGGGCAAGCACCGCTGGATACTGATTTGATAGACGGCATCAAAGAAATGATGC
GCCGTTACGATTGCACGTTTTTCTCCGACCATTTGAGCTACTGCCACGACGGCGGTCATC
TTTACGATTTGTTGCCGCTGCCCTTTACCGAGGAAATGGTGCATCATACGGCGCGGCGTA
TCCGCGAAGTGCAAGACCGTTTGGGCTGCCGCATCGCCGTGGAAAACACGTCCTACTATC
TGCATTCCCCGCTTGCCGAGATGAACGAGGTCGAGTTCCTCAACGCCGTCGCACGTGAGG
CCGATTGCGGCATTCATCTGGATGTGAACAATATCTACGTCAACGCCGTCAATCACGGTC
TGCTGTCGCCGGAGGCTTTTTTGGAAAATGTGGATGCAGAGCGCGTGTGCTATATCCATA
TTGCCGGACATGACGTGGAAACGCCGGAATTGTTGATTGATACACATGGCGCGGCAGTTT
TGCCGACTGTTTGGGACTTGCTCGAACTTGCCTATGCCAAGCTGCCGACGATTCCGCCCA
CCCTGTTGGAACGCGATTTTAATTTCCCGCCTTTTTCCGAACTCGAAGCCGAAGTCGCCA
AAATCGCCGATTATCAAACGCGTGCCGGAAAGGAATGCCGCCGTGCAGCCTGAAACCTCC
GCCCAATACCAGCACCGTTTCGCCCAAGCCATACGCGGGGGCGAAGCCGCAGACGGTCTG
CCGCAAGACCGACTGAACGTCTATATCCGCCTGATACGCAACAATATCTACAGCTTTATC
GACCGTTGTTATACCGAAACGCTGCAATACTTTGACCGCGAAGAATGGGGCCGTCTGAAA
GAAGGTTTCGTCCGCGACGCGTGCGCCCAAACGCCCTATTTTCAAGAAATCCCCGGCGAG
TTCCTCCAATATTGCCAAAGCCTGCCGCTTTTAGACGGCATTTTGGCACTGATGGATTTT
GAATATACCCAATTGCTGGCAGAAGTTGCTCAAATTCCGGATATTCCCGACATTCATTAT
TCAAATGACAGCAAATACACACCTTCCCCTGCGGCCTTTATCCGGCAATATCGATATGAT
GTTACCGATGATTTGCATGAAGCGGAAACAGCCTTGTTAATATGGCGAAACGCCGAAGAT
GATGTGATGTACCAAACATTGGACGGCTTCGATATGATGCTGCTAGAAATAATGGGGTTC
TCCGCGCTTTCGTTTGACACCCTCGCCCAAACCCTTGTCGAATTTATGCCTGAGGACGAT
AATTGGAAAAATATTTTGCTTGGGAAATGGTCAGGCTGGACTGAACAAAGGATTATCATC
CCCTCCTTGTCCGCCATATCCGAAAATATGGAAGACAATTCCCCGGGCCAAAACCATCTA
TCCGCATAAAATTACCTTGTTCCCGATACTATGCCGCTACCCGACCTGACCGATGCCGAA
TTAATAGAGTCGCGTAAACTGCTTCTGCATTTTGCGCGGCTTCAGTTGCCCGACCACCCT
GATTTGGCTGAAGATTTAGTGCAGGAAACATTGCTGTCCGCATACAGCGCAGGCGACAGT
TTTCAAGGCAGGGCACTTGTCAACAGCTGGCTTTTTGCCATATTGAAAAACAAAATTATT
GACGCATTACGTCAAATCGGAAGGCAGAGGAAAGTCTTTACCCACACTGGATGACGAGCTA
CTGGATGAAGCATTTGAAAGCCATTTTTCCCAAAACGGGCATTGGACGCAGGAAGGGCAG
CCGCAACATTGGAACACTCCGGAAAAATCATTAAACAACAACGAATTCCAAAAAATTCTG
CAAAGCTGCCTATACAAGCTGCCTGAAAACACCGCACGGGTATTTACCCTGAAGGAAATA
CTCGGTTTTTCATCCGACGAAATACAACAAATGTGCGGTATCAGCACGTCCAACTACCAC
ACCATTATGCACCGCGCCCGAGAATCATTGCGCCAATGCCTGCAAATCAAATGGTTCAAC
CAAGAAAACCCGAAGTAAACGTTATGAAAAAATGCCGCGATATCGCCCTGCTTCTTTCCA
AACATCAGGACCGGGAAACCACCCCGGGCGAGAAGATTTCCATATACACACACCTGCTGT
TCTGTCCGTATTGCCGTGAATATAAAAGACAACTTCAAACCATCAAAAGATCACTGGCAA
AAACAACCAGAACTTCAAAATAAATGCCGTCTGAAAAGGCTTCAGACGGCATAAGCTGAC
GGAAACAAATCAAACCGATTTACTGTTATCTGCAGTTCATCCATAATACACACTTCAAAA
GCAGCATATTTCCCCATACGGAATGTATAAATACGCAAAATACGAAGGCTGCATCAATTT
GCCATATTTGCTTTATTTGCCTTATTTCACAGACGGCGCTACCCCTCCCGCCCAACCCGT
TCTTTCTGAATGAGCAGATTTCAATGATTAAGGAAACCCTAATGCGCCCAATCTTCCTAT
CTTTCGTTTTATTCCCTATTTTGATAACCGCCTGCAGCACACCGGACAAGTCTGCCCGAT
GGGAAAATATCGGCACAATCTCAAACGGCAATATTCATACATATATCAATAAAGACAGCG
TGAGAAAAAACGGAAATCTGATGATTTTCCAAGATAAAAAAGTTGTTACCAATCTAAAAC
AAGAACGTTTTGCCAACACCCCCGCATACAAGACTGCCATTGCCGAGTGGGAAATCCACT
GCAACAACAAAACATACCGCTTAAGTTCGCTACAGTTGTTTGATACAAAAAAACACGGAAA
TTTCCACACAAAACTACACAGCCTCTTCCCTCCGCCCGATGAGCATCCTGTCCGGGACAT
TAACCGAAAACAATATGAAACCGTATGCGGAAAAAAACTCTGATTGCAACTTATACACA
AACTTACCCACAAACCTTATCATAAAAATGCCGTCTGAAATACTGAAATATCAGCATTTC
AGACGGCATTTTGCCATTCCCTGAAAATTATCCACAAAGTTATCCACATTATTTTTTAAA
```

Appendix A   -503-

```
ACCGGCTTCCATCCGAAATATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGCCGC
AGACAGTACAAATAGTACGGCAAGGCGAGGCAACGCCGTACTGGTTTAAATTTAATCCAC
TATATAAACTCGCTATACAATTTCACTATCCAAACGTAAATTGTTCCATTGATACACAAA
ACTGCTTACCCCCATAATTTTGATAAAGCATTTCTTACATTCCCGGCTCCGTCCCGTAAC
CAACACAGCGGCGGATTCGCATTTGAAGTGCAACTTTCCCTAACAGAAAAAGGCCAGTAT
GCGGTAGCATACGACCTTTCCTGCAAGAAAGATTGCCATGAGCTACACGCAACTGACCCA
GGGCGAACGATACCACATCCAATACCTGTCCCGCCACTGCACCGTCACCGAAATCGCCAA
ACAGCTGAACCGCCACAAAAGCACCATCAGCCGCGAAATCAGACGGCACCGCACCCAAGG
GCAGCAATACAGCGCCGAAAAAGCCCAGCGGCAAAGCCAGACTATCAAACAGCGTAAGCG
ACAACCCTATAAGCTCGATTCGCAGCTGATTCAGCACATCGACACCCTTATCCGCCGCAA
ACTCAGTCCCGAACAAGTATGCGCCTACCTGTGCAAACACCACCAGATCACGCTCCACCA
CAGCACCCATTTACCGCTACCTTCGCCAAGACAAAGCAACGGCAGCACGTTGTGGCAACA
TCTCAGAATATGCAGCAAACCCTACCGCAAACGCTACGGCAGCACATGGACCAGAGGCAA
AGTACCCAACCGTGTCGGCATAGAAAACCGACCCGCTATCGTCGACCAGAAATCCCGTAT
CGGCGATTGGGAAGCCGACACCATTGTCGGCAAAGGACAGAAAAGCGCATTATTGACCTT
GGTCGAACGCGTTACCCGCTACACCATCATCTGCAAATTGGATAGCCTCAAAGCCGAAGA
CACTGCCCGGGCAGCTGTTAGGGCATTAAAGGCACATAAAGACAGGGTGCACACCATCAC
CATGGATAACGGCAAAGAGTTCTACCAACACACCAAAATAACCAAAGCATTGAAAGCGGA
GACTTATTTTTGTCGCCCTTACCATTCTTGGGAGAAAGGGCTGAATGAGAACACCAACGG
ACTCATCCGGCAATACTTCCCCAAACAAACCGATTTCCGTAACATCAGTGATCGGGAGAT
ACGCAGGGTTCAAGATGAGTTGAACCACCGACCAAGAAAAACACTTGGCTACGAAACGCC
AAGTGTTTTATTCTTGAATCTGTTCCAACCACTAATACACTAGTGTTGCACTTGAAATCC
GAATCCAAGAGCCTCTAAAAAATAATCGCTTGTTTTGACACCGATACACTCATATAGTGG
ATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGCAGTACAAATAGTACGGCAAGGC
GAGGCAACGCCGTACTGGTTTAAATTTAATCCACTATACAAATACAGAAACTCAAGAAAA
TAACCTTGTGTATTGACCATCTCAAGCAATTCAGAAAAATCAAGAAATTTTCTGACCGTA
AACAAACGTTTCCCTAAAAAAACGATGTCTTCAAAAATATCGAACAAATAGAGACCTTTG
CAAAAATAGTCTGTTAACGAAATTTGACGCATAAAAATGCGCCAAAAAATTTTCAATTGC
CTAAAACCTTCCTAATATTGAGCAAAAAGTAGGAAAAATCAGAAAAGTTTTGCATTTTGA
AAATGAGATTGAGCATAAAATTTTAGTAACCTATGTTATTGCAAAGGTCTCAAATAATCA
TCTTCGGCGTTTTCATTTTTATGGATTAAAACAACACGGAAAAATCTGTTTTCAGATGC
TTGCCCGCTTGATTGTTCGGATTATTGTCCGGAACGACAAAACCGTCCTCAAAATTAAAG
CAGACGTTGCGTCCTTCTACCTTTATCTCTGTGCAATAACAATCATGTAGAGAAATGCTA
TCCGAAAAATTTTTTCTTTGTGTATGCAAAAAAAGTTTTCATTCAAGTACCCATATCTAA
CGCAAACGTTTACCTGTTTCCCCGTCAATAATCGACTCGGCCGATTTCTGCCTGCCGATT
CTCCCACCAACAATCCACACATCGCGTCCGAATTGCCTTCTGACTTCCCTCTCCGTCCGA
CACGCGCCGTTTGCCTGCGCGGTTGCACGAAGTCGAGACCAAAGGCGTTTGCAAAGCCTGA
CACAAGCGGCGCGCACCTACATGGGCGGGAACCCTGACCGCCAACTTGCTGCGCTGTTTC
CCGCGTAACTCGGGTAAGACACAGGATTTGGCGGATAATAGGAACGTTTTAGGGGCGGGC
CATTCTTTTCTAAGCATATCCTGAAGATTTTCAGACGGCATTTGAAGTAAAGGCTGCAAT
TGTTCAAATTGATTCCCGATGACAATCATACCCTTGTGTTGCGGTCTTTTTTTCAAATGC
GCCAACTTACCGAGTGCTTTGGCTAATGTCGGAAGACACCCCAAGCCATAACAAGATTCG
GTCGGATAAGCGACCAAACCACCTTTTTTCAAATAAACGCTTAACTTACGTTGCGCTGAT
GCTGCGATAATTCTCGGAAATAACATAATATAAAATACCGTCTGAAGCACATTAGTCATA
CTTGGCTTCAGACGGCATCATCCTCTTTCTAATTAACGGTTAATCGCTTTATCGGCAATG
TCTTTACGGTATTGCATCCCGTCGAAACTGATTTTTTCCAACGCGCCATATGCCTTAGCT
TTCGCTTGCGCCACATTATCGCCCAATCCCACAACACACAATACGCGTCCGCCGTTGGTC
AATACGTCACCTTTCTCGTTTGCCGTTGTACCTGCATGGAAAACTTTGCCGATTTGGTTG
GCAGCATCCAGACCGGAAATAATATCGCCTTTTTTGGGCGTTTCGGGGTAATTTTGCGCC
GCCAGTACCACGCCCACGGCAGTTTGCGGGCTCCATTCCGCGGTTACGCTATCGAGTTTG
CCGTCTATTGCCGCTTCAACCAAATCCGATAAGTCGCTGTTCGGCTCATAATCGGC
TGGGTTTCAGGATCGCCGAAACGGCAGTTAAACTCAATCGTATAGGGTGCACCGCTTTGA
TCAATCATCAAACCTGCGTACAGGGAAACCGGTGAACTCATGCCCCTCCGCTTTCATCCCT
GCTACGGTCGGCAAAATAATTTCATTCATCGCGCGTTCGTACACAACAGGCGTTACCACA
GGCGCAGGGCTGTACGCACCCATACCGCCCGTATTCAGACCTTTGTCGCCGTCTAAAAGA
CGCTTGTGGTCTTGGCTGGTTGCCATAGGCAGTACGATTATTGCCATCAACCATGACGATA
AAACTCGCTTCTTCGCCTTGCAGGAAATCTTCAATTACAACACGCGCGCCGGCATTGCCC
ATTTTGTTGTCCAGCAGCATATCATCAATCGCAGCATGCGCTTCATCCAAAGTCATCGCC
ACAATCACGCCTTTACCTGCCGCCAAACCATCGGCTTTGATAACGATAGGCGCACCTTTC
TGATTGACGTAATCATGTGCGGCATCGGCGTTTTCAAAGGTTTGATATTGCGCGGTCGGA
ATATTGTATTTCGCCATAAATGCTTTGGCGAAATCTTTGGAACTTTCCAACTGCGCCGCA
TATTGTGTCGGACCGAATATTTTTAGTCCTGCAGCACGGAAATCATCCACAATACCTGCC
GCCAAAGGCGCTTCAGGGCCGACGACGGTAAAAACAATATTTTCTTTACGACAGAATTCA
ATCAAATCCTGATGCGCAGTCAAGTCGATGTTTTGCAACTTGGGTTCAATCGCTGTACCG
GCATTACCAGGCGCAACAAATACTGTTTCCACTTTAGGCGACTGCGCCAATTTCCAAGCC
AGCGCGTGTTCGCGACCGCCATTACCGATAACCAGCAGTTTCATACCATCTCCTTGACAA
ATATGTACTTTTAACGAAAACTCGATACAAAGGGACTTTTATCCCATCTGAAGAAATTTT
AGTAGAATCAAACAAAAGACCGCTTCATTCCACTCTGCAACCTATTCAACTTATCCATAA
ATTAAAAAAGGACAAGCAACCATGCAAAAACGTATTGATGAAATCCAAAGCAAATACCGC
GAATGGTGTCATTTACTACCGCAACTGGAAGAAGACATCCGCCGTTGGAAACATGTCGTC
ACTTTAATTCGCGACATGGACAATTTCTATACCCACGAGTATCAGGCGTGTCATCAGGCT
ATTGAAGACGGGGTAGAACTGGATTTGAGTACGGAAGGCGAATACAGCATTATGAGTGAA
GATGCGCTATGGAACGCGCTGGGCGAATTCCATCAATTGGCTTGGTTATATTTGCGCTCC
AGCGTCGATGCCTTAGACAAATATACACAAGAAGATTAGTCAGCGAAGAGGTCGTCTGAA
ATACCATCACAAAGCATTTCAGACGACCTTTCATTCAAAAGGCTTTTCCGTATTTACTTC
```

Appendix A   -504-

```
AATCTGCCGAGTATTCTTCCAAGCCGCAACACAGGCCTCATAATTTACCAACGACAAACT
GACCGTCAATCGGCAATCCAACTGCAAATCCCGCTCCAATATATCCGCCTGATATTGTTT
GGCAATGCGTATCGCTTCATTCAAAAACGGATATTCACATTTCAGCCAAACAGTTTTTTC
AATATTCTTTTCAACTACTTCTGCAACTGCCAACGCTTGAGCCGTCGCCTCTTTGTACGC
ATGTATCAGACCTGGAACACCTAACAAAGTACCACCGAAATAGCGGACGACCACAACCAA
AACGTCGGTAATACCCACCGAATCAATCTGTCCCAAAATTGGTCGTCCAGCACTTCCTGA
TGGCTCTCCATCATCGTTGGCACGAAATTGCACACCATCCACACCCAAACGATAGGCATA
GCACCAGTGTCGTGCTTTATGATGCTCTTCCTTTAACGGATCGAGGTATTTTTTCACATC
AGCCAATGTCCGAATCGGATAGGCAAATGCAATAAAACGGCTGCCTTTATCTTTAAACTC
AGCCTGCGTCAAGGAAGTAATGGTTTTATAAGTCGTAATCATGCTGAAATGTTTTCAGAC
GACCTCATTAATAACAAGGTCGTCTGAAAGTTTCACGTGAAACATCAATTTTTCAATACT
TCTGTTAATTGTGGAACGATTTCAAATAAATCGCCAACCAATCCGTAATCGGCTACATTG
AAAATCGGCGCATCAGCATCTTTATTGATTGCAACAATCACCTTACTGTCTTGCATACCG
GCAACGTGTTGAATTGCACCTGAAATACCGATTGCAAAATAGAGTTGCGGCGCAACCACT
TTACCGGTTTGTCCGACTTGAGCATCGTTTGGCGCATATTCGGCATCAACTGCTGCACGG
GATGCACCGATTGCCGCACCTAAAACATCCGCCAACGGTGTCAGCACTTCATTGAATTTT
TCCGCACTACCCAACGCACGACCACCGGAAACAATCACTTTTGCCTGAGTCAGTTCAGGA
CGATCGGAATGGGAAAGCTGACGGTTAACAAAACGACTCAGGTTTTGGGCAGGGGTTGCT
TCAACATTAATTACCTCAGCATTACCACCTTGCGCCGCCACTGCGTCAAAAACCGTCGCA
CGGAAGGTCAGCACCAATTTTTCTGAATCAGCTTGCACGGTTTCAAATGCATTACCCGCA
TAAATGGGGCGCACAAAAGTCGTGTTATCCACAATTTCGGTCAAATCAGAAATTTGCGGT
ACGTCTAATAAGGCTGCTACGCGGGGCAAAAGGTTTTTACCGAATGTGGTTGCCGTTGCT
GCAACATAGCGGTAATCGGCCGCCAATTTAACAACCAGCGGAGCCAACTCTTCAGCCAAA
CCTTCGGCATAATGAGCAGCATCTGCAACCAAAACTTTTTTCACCCCCGCTACTTGCTTC
GCGAATTCCACTACAGCAGATGCGCCGTTTCCGGCAACCAATAAATCGACTTTGCCCAGT
TTGGCGGCAGCGGTAACAGCATGCAAAGTGGTAGGATTCAACTGTTTGTTGTCGTGTTCG
ACAATAATCAATACACTCATTTCAGCCTCCTCAAATCACTTTGGCTTCGTTTTTCAATTT
TTCAACCAATTCGGCAACGCTTGCTACTTTTACGCCTGCCTGACGCGCCTTAGGTTCGGC
AAATTTCACCGTTTTCAAACGAGGTGAAATGTCGGCAACCAAATCGTCAGGAGTCAGTTT
TTCCAAAGGTTTTTTCTTTGCCGCCATAATATTGGGGAGTTTGACAAAGCGCGGCTCGTT
CAAACGCAAATCCGCGCTGATAACAGCAGGCAGTTTCAATGCGATGGTTTCTTCGCCGCC
ATCGATTTCCCGCACAATCTGCACTTCGTCGCCTTCAATTTGTACTTTGGACGCGAACGT
ACCTTGCGCCGCATTCAGCAAAGCTGCCAGCATTTGCGCCACTTGATTGGCATCATCATC
AATCGCTTGTTTGCCCAAAAAGAAAATTTGCGGATTTTCTTTGTCCGCAACGGCTTTCAG
CAACTTAGCAACGGCCAGAGACTCCAGTTTAGTATCGGTTTCAACATGAATGGCACGGTC
GGCACCCATCGCCAAAGCTGTACGCAAGGTTTCTTCGCATTTTTTCTCACCCAAAGAAAC
CGCTACGATTTCGCTTACTTTTCCGGCTTCTTTCAAACGGACAGCTTCTTCCACAGCGAT
TTCGTCAAACGGATTCATCGACATTTTGACATTGCCGATATCCACATCCGAACCATCGGC
TTTTACACGAACTTTGACGTTGTAGTCCACTACGCGCTTTACTGCGACCAGTGCTTTCAT
TGAACCCTCCTAAAAAGAACGCTGCTTTCACCATCCAGCGAAACCAAACCTTCTTCCCTA
TAAAACCAAATCCGTTTTCCTTAAAAACGAATTCATTCAAAAATCTTTCGGATAATGCTT
GCCGATTATACCATTTTTAAAGCATTTACTCAGACTAGCGGATATACATTCCTGTATCTA
ATAAATTGGAAAATATCATGCCGCCATATCAGTTTTAGACGACCCTTTAGCCTTTATCTG
CTGCAACACAATCCATCAGCGCTTGATAAACCAAATCTGCGGTCGGAATCTGCCCGATAT
TGCCCAAATTTTTTGCAATTGGCGAAACCTGAACGCCTGTTTTAATCGGATCGGTATCGG
TATAAATGCCGACCACAGGTTTTTCCAAGGCATTTGCCCAAATGCAGCAAACCGGTATCCA
CGCCGACAATTCCGACCGCGTATTTCAGCAGATACGCTGCCTGCAATAAATTTATTTTGT
CGCACACAATAGCAAACGGCAGCCCATCTGCAATTTGTTTGGCACGCGTTTTTTCATCTT
CATTTCCCCAAGGCAGGTAAATATTGCATTGCTGTTCTTCATTCAACTTTTGCAGCAACG
ACCGCCAGTTTTCCACAGGCCATAACTTACTGTCCCGACTGGTCGCATGCAAAGCCGCAT
AATACGGCTGCGCTAAATTTTTCAGACGGCCTGCTTCAGGAACAGTCAAGCCAAATACCT
GCGTTTCCGGCATTACATACCCAAATACTTGGGCAAACAGTTCACGGTTGCGCCAAACGG
CATTTTTTCCCTTCGGTACAGCGTATGTTTTTACATACGCCAAAGCAGCCCATCCCTCGC
GCGCACTGTTTTTATCCAAACCACAAATCGGGGATTTTGCCATTTTAGCGAAACACGCGC
TTTTAATCAGACCTTGACTGTCCAATACGAAATCAAATACTTCCTGCCGCAAAGTCTGTT
TCAGATGACCCATTTCCCGCCAAGTTTCAGCCCGAAAGAGATGTTTGCGCCATTGCCGCC
ATTTCATCACATGGATTTTTTTTACAAACGGATGCAGGCGCGCAATATCTGCAAATCCAG
CCTCACATAGCCAATGCAGTTCTACATCAGGACATTGTCGCGCCAAATCTTCGATTGCGG
GCAAAGTGTGAATTAAATCGCCCATACTAGACAAGCGGACAAGCAAAATTTTCATATTTA
GGAAGGGGGTTTCACGTGAAACAATTTTAACTTATTGATTATTAATATATTTATTTATTT
CATCAGCCGTTTTTTAAGATGATTGCCCCAGCAGAATGCATTTCCTGCCATGCTGTTTCGA
TGGTTTCCGGCGCAATACCCCGACAAGCCGCTTCATTGACGACAACCTGCCAACGACCGC
CTTTGAGTAACTGCAAAACCGTTGTTTTAACACAATAATCCGTAGCTAACCCACCGATAA
TAACCGTATCCGTATTTTGACAACGCAGCCATTCAATCAGCCCTGTGCTTAGTTTTTCCT
CAATATCGTGAAAACACGCGCCGTAAGGATGCAATTCAGGATCAACACCTTTCCAAACGC
AATAATCGTATTCTTTAGCAGAAGGCAGCCCGTCCAATAATTCATAGCCGCGCGTACCGA
CCATCGCATGAGCCACCCAAGTCAAATCCGCATCAGGCAAACCTGTCGGCTTCAACATAT
CAACAGGGTTATCCACAAGCCATTTCGCTACCATATGATGCGCATCTTTCGTCATCACGC
GCAAATCCGCCAAAGCGGCTTGCGCATTCAACTCCTCGACAATCAAATGCCCCTCGTTCA
CGGGCAGTTCGTCAGGACACAGTGGCGTAAACGTTTTTTGTGCATCAACATCAATGGAAA
CAATCATCTCATTATTTCAACGCGATTAAAATGCCCTGTATTATAACAAATTACTGCCCA
AAAGCGGTAAAACCGATTGTGATAAGATAAGGTTTTTCCAAAAAAACTTATCCACAACCTT
ATGACTTATACCATTACCCCCATCGGCACCGCCCGCTCGCCCTACAAACAGAAATTCGGC
-ATCGCCCGCCAGCCCGGTTTGGTCTCGCCGCAAAAGCCTGCATCGAGCTGAATCCCAAA
TTCACCGCAGACAGCGTGCGCGGGCTGGAAGATTTCGATTATGTGTGGATAAGTTTTATT
```

```
TTTCACGGCGTATTGGATGAAGGCTGGGCGCAAATGGTGCGCCCGCCCACGGCTCGGCGGC
AAACAAAAAATGGGCGTGTTCGCCACGCGCAGCCCCCACCGCCCCAACCATCTCGGACTC
TCGCTCCTGAAACTCGAACGCATCGAAACCGGCAAACCCGTCCGCCTCTATTGCAGCGGC
GCAGACCTGCTGGACGGCACACCGATTGTGGACATCAAACCTTATATCCCCTTTGTCGAA
TCCAAACCCGATGCCGCATCCGGTTTCGTCAGCGGCAAACCCGTAGAGTTGGAAGTCGTT
TGGCAGGAAAACATCGGCGCGGAAAATTTATCTGCAAACACCAAAAACCTTATCAGCCAA
AGCATTGCCCAAGATCCGCGCCCCGCCTATCAGAATATTCCCGAACGGATTTATGTGATG
AATATTGCAGATTACGAAGTCAGATTTCAAATCGAGGAAAACCGTGCAACCGTTATTGAT
CTTTCCCCAACCCCGCTTTAAATCGGGCAAAAATCCGGTTTTGCCGCATAGCAGTTGAAC
AAACGGCTGTTGTTGTTCGCCATAAGCCGCAATATCAAGTTATAGCGGATTAAATTTAA
ATCAGGACAAGGCAACGAAGCCGCAGACAGTACAAATAGTACGGCAAGGCGAGATAACGC
CGTACTGGTTTAAATTTAATCCACTATACAGATAAACAATGCCGTCTGAACGCAATGTGT
TCAGACGGCATTTACTTATCCACAGGTTTGTTCAAGCCTTAGATTTTGCCTGCGAAGTAT
TCCAAAGTGCGGACGAGTTGGCAGGTGTAGGACATTTCGTTGTCGTACCAGGCAACGGTT
TTCACCAATTGTTTGCCGCCCACGGTCATCACGCGGGTTTGGGTCGCATCGAAGAGCGAG
CCGTATTCGATGCCGACAACGTCGGAAGAAACGATTTGATCTTCGTTGTAGCCGTAAGAT
TCGCTGGCGGCGGCTTTCATCGCGGCGTTGATTTCTTCTTTGGTTACAGGGCGTTCGAGG
ATGGAAACCAATTCGGTCAGCGAGCCGCTGGCAACAGGGACGCGTTGGGCGGAGCCGTCG
AGTTTGCCGTTCAATTCGGGGATAACCAGACCGATGGCCTTGGCGGCACCGGTGCTGTTG
GGCACGATGTTGAGCGCGGCGGCTCGGGCGCGGCGCAAATCGCCTTTGCGGTGCGGCGCG
TCAAGGGTGTTTTGGTCGCCGGTGTAGGCGTGGATGGTGGTCATCAGACCTTCGACTACG
CCGAACTCTTTTTGCAGGACTGCCGCCATCGGGGCAAGGCAGTTGGTGGTGCAGGAAGCG
GCGGAGATAACGGTTTCGCTGCCGTCCAAAATGTCTTGGTTTACGCCATATACGACGGTT
TTCACATCATTGCCGCCGGGTGCGGAAATCACGACTTTGCGCGCGCCCGGCCCTGATGTGT
GCTTCGGCTTTGGTTTTATTGGTAAAGAAGCCGGTACATTCGAGGATGACATCCACACCC
AACTCGCCCCAAGGCAATTCTTCGGGATTCGGATTGGCAAAAACTTTGATCTCTTTGCCG
TTTACCACGATGGCATCGTCTTTTAATTCGGCAGTACCTTGGAAACGGCCTTGTGTGCTG
TCGTATTTGAAAAGGTGCAGCAGCATTTCGGCAGGGGTCAGGTCGTTGACGGCGACGACT
TCGATGTCGTGGGCTTTTTCAATTTGACGCAATGCGAGGCGGCCGATGCGGCCGAAACCG
TTAATCGCTACTTTAATGCTCATGTATATACTCCAAGCTGTGAAACGAAATTTCAATACC
TGTATTGTATTCTGAAATAAAGTTACATTCCACTATTACATCTAACTACTTGCCGCTTAT
TTGATATAGATGAATTTTACTGTTTGCACAGATTTCCAAAACTTTTACCATCAATATTTG
AATTTAAAATTTTAATGATGATTTTGATGATTGCCAACCTGCTTGTGCGTAAGTAGCAAA
TATCCAATATTTTCATTACCTTTTTGTCAAATAAGTTTGAGTTTAAGACTTGCTGTATAA
GACAGATAAGCGTGGATGTTTTTGACTTAATAATATTTCTGTGGATAACTTTGCTGTTT
TCCTAGTTGTCTCCACAACCTTATTGACAGGCTTACGGTCAGTCTCATTCCGTCGAAGAC
AAAACCTTTTGCTACAATACCGTTTTCCTAATGATAAGGCAGCCCCATGTCCAAATCCGC
CGTTTCCCCAATGATGCAGCAATACCTCGGCATCAAAGCGCAACATACCGACAAACTGGT
GTTTTACCGTATGGGCGATTTTTACGAGATGTTTTTCGACGATGCGGTAGAAGCGGCAAA
ACTTTTGGATATTACCCTGACCACGCGCGGACAGGTGGATGGCGAGCCGGTCAAAATGGC
AGGCGTGCCGTTTCACGCCGCCGAACAATATCTGGCGCGCCTGGTCAAGTTGGGCAAAAG
CGTGGCGATTTGCGAACAGGTCGGCGAAGTCGGCGCGGGCAAAGGGCCTGTGGAGCGCAA
AGTCGTGCGCATCGTAACGCCCGGCACGCTGACCGATTCCGCATTGCTGGAAGACAAGGA
AACCAACCGCATCGTTGCCGTGTCCCCCGACAAAAAATACATCGGTTTGGCGTGGGCATC
GCTGCAAAGCGGCGAATTCAAAACCAAGCTGACAACTGTGGATAAATTGGACGACGAACT
GGCGCGCCTGCAGGCGGCGGAAATTCTGTTGCCTGACAGTAAAAACGCACCGCAACTTCA
GACGGCATCGGGTGTTACGCGCCTGAACGCGTGGCAGTTTGCCGCCGACGCGGGGGAAAA
ACTGCTGACGGAATATTTCGGCTGCCAGGATTTGCGCGGCTTCGGTTTGGACGGCAAAGA
ACACGCCGTTGCGATTGGCGCGGCAGGTGCACTGTTGAACTATATCCGTCTGACGCAAAA
CCTGATGCCGCAACATTTGGACGGCCTGTCGCTCGAAACCGACAGCCAATATATCGGTAT
GGATGCCGCCACGCGCCGCAATCTCGAAATCACGCAAACCCTCTCCGGCAAAAAATCGCC
GACCCTGATGTCCACGCTCGACCTTTGCGCTACCCATATGGGCAGCCGCCTCTTGGCTCT
CTGGCTGCACCACCCTTTACGCAACCGCGCCCACATCCGAGCGCGCCAAGAAGCCGTTGC
CGCGCTGGAAAGCCAATACAAACCCCTCCAGTGCCGTCTGAAAAGCATTGCCGACATCGA
ACGCATCGCCGCCCGTATTGCCGTGGGTAACGCCCGCCCGCGCGACCTCGCCGCCCTGCG
CGACAGCCTGTTTGCCCTGTCGAAATCGAATTGTCCGCCGAGTGCAGCAGTCTTCTTAGG
AACCCTCAAAGCCGTTTTCCCGGAAAACCTATCCACAGCCGAACAGCTCCGCCAAGCCAT
TTTGCCCGAACCTTCCGTCTGGCTGAAAGACGGCAATGTCATCAACCACGGTTTTCATCC
CGAACTGGACGAATTGCGCCGCATTCAAAACCATGGCGACGAATTTTTGCTGGATTTGGA
AGCCAAGGAACGCGAACGTACCGGTTTGTCCACACTTAAAGTCGAGTTCAACCGCGTTCA
CGGCTTTTACATTGAATTGTCCAAAACCCAAGCCGAACAAGCACCTGCCGACTACCAACG
CCGGCAAACCCTTAAAAACGCCGAACGCTTCATCACGCCGGAACTGAAAGCCTTTGAAGA
CAAAGTGCTGACTGCTCAAGAGCAAGCCCTCGCCTTAGAAAAACAACTCTTTGACGGCGT
ATTGAAAAACCTTCAGACGGCATTGCCGCAGCTTCAAAAAGCCGCCAAAGCCGCCGCCGC
GCTGGACGTGTTGTCCACATTTTCAGCCTTGGCAAAAGAGCGGAACTTCGTCCGCCCCGA
GTTTGCCGACTATCCGGTTATCCACATCGAAAACGGCCGCCATCCCGTTGTCGAACAGCA
GGTACGCCACTTCACCGCCAACCACACCGACCTTGACCACAAACACCGCCTCATGCTGCT
CACCGGCCCCAATATGGGCGGCAAATCCACCTACATGCGCCAAGTCGCGCTGATTGTTTT
ATTGGCACACACCGGCTGTTTTGTGCCTGCCGATGCCGCCACAATCGGGCCCATCGATCA
AATCTTCACCCGCATCGGCGCATCGGACGACCTCGCCTCCAACCGCTCCACTTTCATGGT
CGAAATGAGCGAAACCGCCTACATCCTGCATCACGCCACCGAACAAAGCCTTGTTTTAAT
GGACGAAGTCGGACGTGGTACTTCCACTTTCGACGGCTCGCCCTCGCCACGCCGTTGC
CGAACACCTGCTGCAAAAAAACAAATCCTTCAGCCTGTTTGCTACCCACTATTTCGAGCT
GACCTACCTGCCCGAAGCCCACACCGCCGCCGTCAATATGCACCTTTCCGCGCTCGAACA
GGGACAGGACATCGTTTTCCTGCACCAAATCCAACCGGGTCCCGCCGGTAAAAGCTACGG
```

Appendix A   -506-

```
CATTGCCGTCGCCAAACTCGCCGGCCTGCCTGTACGCGCATTGAAATCCGCCCAAAAGCA
TTTGAACGGACTGGAAAACCAAGCCGCCGCGAACCGTCCCCAACTGGATATTTTCAGTAC
CATGCCGTCTGAAAAAGGAGATGAACCGAATGTGGGCAACTTTGTGGATAAAGCAGAGGA
AAAACATTTTGAAGGTATATTGGCAGCAGCCTTGGAAAAACTCGATCCCGACAGCCTGAC
CCCGCGCGAAGCATTGTCAGAACTGTACCGTCTGAAAGATTTGTGCAAATCCGTATCTTA
ATTTCCGTTGTCGGAACAGCATCAAACCATATGGAAAAATCTGTGGATAAACATTATCTG
ACAGGAAATTTCCAAACATAAAAAATGCCGTCCGAACAGCTCAGACGGCATCCGTCCATT
CGGCT
```

Appendix B

NMB Open Reading Frames

NMB0001 acetyltransferase, putative 491 3
NMB0002 hypothetical protein 890 498
NMB0003 glutamyl-tRNA synthetase 2305 914
NMB0004 EpiH/GdmH-related protein 3154 2513
NMB0005 arsenate reductase 3504 3154
NMB0006 thioredoxin-related protein 3628 4304
NMB0007 cell division ATP-binding protein FtsE 4304 4951
NMB0008 cell division protein FtsX, putative 4951 5865
NMB0009 BolA/YrbA family protein 5959 6204
NMB0010 phosphoglycerate kinase 7485 6277
NMB0011 UDP-N-acetylglucosamine 1-carboxyvinyltransferase 8819 7569
NMB0012 conserved hypothetical protein 10310 9342
NMB0013 conserved hypothetical protein 10792 10346
NMB0014 3-deoxy-D-manno-octulosonic-acid transferase 12104 10836
NMB0015 6-phosphogluconate dehydrogenase, decarboxylating 13615 12170
NMB0016 hypothetical protein 13911 14144
NMB0017 UDP-3-O-3-hydroxymyristoyl N-acetylglucosamine deacetylase 16137
        15217
NMB0018 pilin PilE 17734 17225
NMB0019 pilS cassette 18932 18513
NMB0020 pilS cassette 19646 19263
NMB0021 pilS cassette 20297 19914
NMB0022 pilS cassette 21157 20894
NMB0023 pilS cassette 21882 21466
NMB0024 pilS cassette 22474 22061
NMB0025 large pilS cassette 23489 22821
NMB0026 pilS cassette 23868 23594
NMB0027 FKBP-type peptidyl-prolyl cis-trans isomerase 24226 23900
NMB0028 hypothetical protein 24522 24307
NMB0029 glycerate dehydrogenase 24644 25594
NMB0030 methionyl-tRNA synthetase 27729 25675
NMB0031 glucosamine--fructose-6-phosphate aminotransferase (isomerizing)
        29683 27848
NMB0032 hypothetical protein 29959 30483
NMB0033 membrane-bound lytic murein transglycosylase A, putative 32229
        30907
NMB0034 conserved hypothetical protein 32440 33276
NMB0035 conserved hypothetical protein 33276 34439
NMB0036 conserved hypothetical protein 34706 35968
NMB0037 phnA protein 36372 36046
NMB0038 UDP-N-acetylglucosamine pyrophosphorylase 37817 36450
NMB0039 hypothetical protein 38144 37875
NMB0040 hydrolase, putative 38850 38140
NMB0041 ABC transporter, periplasmic solute-binding protein 38909 39907
NMB0042 conserved hypothetical protein 40004 40849
NMB0043 conserved hypothetical protein 40878 41360
NMB0044 peptide methionine sulfoxide reductase 43033 41468
NMB0045 signal recognition particle protein 43179 44441
NMB0046 hypothetical protein 44451 44672
NMB0047 conserved hypothetical protein 45072 45353
NMB0048 conserved hypothetical protein FRAMESHIFT 47969 48109
NMB0049 pilC2 protein FRAMESHIFT 48116 51279
NMB0050 conserved hypothetical protein 55173 53026
NMB0051 twitching motility protein 56685 55462
NMB0052 twitching motility protein PilT 57891 56851
NMB0053 conserved hypothetical protein 58011 58694
NMB0054 hypothetical protein 58697 59101
NMB0055 pyrroline-5-carboxylate reductase 59153 59941

Appendix B   -2-

NMB0056 DnaK suppressor protein 60091 60504
NMB0057 hypothetical protein 66347 66700
NMB0058 hypothetical protein 66731 66885
NMB0059 dnaJ protein 66972 68090
NMB0060 conserved hypothetical protein 68289 70304
NMB0061 dTDP-6-deoxy-L-lyxo-4-hexulose reductase FRAMESHIFT 70923 69924
NMB0062 glucose-1-phosphate thymidylyltransferase 71828 70965
NMB0063 dTDP-D-glucose 4,6-dehydratase 72958 71894
NMB0064 UDP-glucose 4-epimerase 74093 73077
NMB0065 hypothetical protein 74476 75399
NMB0066 rRNA adenine N-6-methyltransferase 75687 76418
NMB0067 polysialic acid capsule biosynthesis protein SiaD, truncation
        77283 76609
NMB0068 polysialic acid capsule biosynthesis protein SiaC 78416 77370
NMB0069 polysialic acid capsule biosynthesis protein SiaB 79103 78420
NMB0070 polysialic acid capsule biosynthesis protein synX 80240 79110
NMB0071 capsule polysaccharide export outer membrane protein CtrA 80375
        81547
NMB0072 capsule polysaccharide export inner-membrane protein CtrB 81565
        82725
NMB0073 capsule polysaccharide export inner-membrane protein CtrC 82728
        83522
NMB0074 capsule polysaccharide export ATP-binding protein CtrD 83522 84169
NMB0075 transcriptional accessory protein Tex, putative 84236 86506
NMB0076 methyltransferase HphIm(C), FRAMESHIFT 86540 87539
NMB0077 site-specific DNA methylase, truncation 87529 87876
NMB0078 UDP-glucose 4-epimerase, truncation 87922 88575
NMB0079 dTDP-D-glucose 4,6-dehydratase 88694 89758
NMB0080 glucose-1-phosphate thymidylyltransferase 89824 90687
NMB0081 dTDP-4-keto-6-deoxy-D-glucose-3,6-epimerase 90729 91280
NMB0082 capsule polysaccharide modification protein LipA 91308 93419
NMB0083 capsule polysaccharide modification protein LipB 93559 94815
NMB0084 conserved hypothetical protein FRAMESHIFT 95185 96587
NMB0085 sodium/glutamate symporter 96808 98019
NMB0086 hypothetical protein 98121 99134
NMB0087 hypothetical protein 99148 99342
NMB0088 outer membrane protein P1, putative 101170 99773
NMB0089 pyruvate kinase II 102957 101488
NMB0090 IS1016 family transposase, putative FRAMESHIFT 103217 103857
NMB0091 hypothetical protein 104399 104632
NMB0092 hypothetical protein 104629 104853
NMB0093 hypothetical protein 104856 104939
NMB0094 hypothetical protein 105228 105413
NMB0095 hypothetical protein 105423 105572
NMB0096 hypothetical protein 105676 105843
NMB0097 secretion protein, putative POINT MUTATION 105860 107344
NMB0098 ABC transporter, ATP-binding protein FRAMESHIFT 107313 109396
NMB0099 hypothetical protein 109624 109484
NMB0100 hypothetical protein 109770 109627
NMB0101 IS1016 family transposase, putative FRAMESHIFT 109850 110489
NMB0102 hypothetical protein 110608 111123
NMB0103 bacteriocin resistance protein, putative 111896 111405
NMB0104 hypothetical protein 113073 112402
NMB0105 PhnO-related protein 114197 113358
NMB0106 aspartate carbamoyltransferase, catalytic subunit 114436 115353
NMB0107 aspartate carbamoyltransferase, regulatory subunit 115366 115821
NMB0108 hypothetical protein 115889 116551
NMB0109 conserved hypothetical protein 117948 116620
NMB0110 polypeptide deformylase 118018 118518
NMB0111 methionyl-tRNA formyltransferase 118608 119531
NMB0112 16S RNA methyltransferase 119613 120869
NMB0113 hypothetical protein 120892 121431
NMB0114 nitrogen regulation protein NtrY, putative 121434 123551
NMB0115 nitrogen assimilation regulatory protein NtrX 123547 124821

Appendix B   -3-

```
NMB0116 DNA processing chain A 124915 126105
NMB0117 smg protein, putative 126134 126592
NMB0118 DNA topoisomerase I 126667 128970
NMB0119 hypothetical protein 129741 129049
NMB0120 hypothetical protein 130312 129764
NMB0121 conserved hypothetical protein 130431 130805
NMB0122 conserved hypothetical protein 130897 131463
NMB0123 ferredoxin, 4Fe-4S bacterial type 131589 131837
NMB0124 translation elongation factor Tu 132257 133438
NMB0125 preprotein translocase subunit SecE 133638 133913
NMB0126 transcription antitermination protein NusG 133918 134451
NMB0127 50S ribosomal protein L11 134555 134986
NMB0128 50S ribosomal protein L1 134989 135681
NMB0129 hypothetical protein 135753 135893
NMB0130 50S ribosomal protein L10 135914 136411
NMB0131 50S ribosomal protein L7/L12 136472 136840
NMB0132 DNA-directed RNA polymerase, beta subunit FRAMESHIFT 137027 141208
NMB0133 DNA-directed RNA polymerase, beta' subunit 141368 145540
NMB0134 hypothetical protein 145835 146089
NMB0135 conserved hypothetical protein 146089 146235
NMB0136 30S ribosomal protein S12 146417 146785
NMB0137 30S ribosomal protein S7 146906 147373
NMB0138 elongation factor G (EF-G) 147395 149497
NMB0139 translation elongation factor Tu 149586 150767
NMB0140 30S ribosomal protein S10 150788 151096
NMB0141 transposase, truncation 151241 151603
NMB0142 50S ribosomal protein L3 151777 152418
NMB0143 50S ribosomal protein L4 152421 153038
NMB0144 50S ribosomal protein L23 153038 153349
NMB0145 50S ribosomal protein L2 153358 154188
NMB0146 30S ribosomal protein S19 154198 154473
NMB0147 50S ribosomal protein L22 154485 154811
NMB0148 30S ribosomal protein S3 154824 155513
NMB0149 50S ribosomal protein L16 155500 155913
NMB0150 50S ribosomal protein L29 155916 156104
NMB0151 30S ribosomal protein S17 156107 156367
NMB0152 50S ribosomal protein L14 156592 156957
NMB0153 50S ribosomal protein L24 156972 157292
NMB0154 50S ribosomal protein L5 157305 157841
NMB0155 30S ribosomal protein S14 157847 158149
NMB0156 30S ribosomal protein S8 158168 158557
NMB0157 50S ribosomal protein L6 158574 159104
NMB0158 50S ribosomal protein L18 159121 159471
NMB0159 30s ribosomal protein S5 159493 160008
NMB0160 50S ribosomal protein L30 160004 160186
NMB0161 50S ribosomal protein L15 160191 160622
NMB0162 preprotein translocase SecY subunit 160637 161944
NMB0163 translation initiation factor IF-1 161952 162167
NMB0164 50S ribosomal protein L36 162191 162301
NMB0165 30S ribosomal protein S13 162370 162729
NMB0166 30S ribosomal protein S11 162752 163144
NMB0167 30S ribosomal protein S4 163167 163784
NMB0168 DNA-directed RNA polymerase, alpha subunit 163813 164796
NMB0169 50S ribosomal protein L17 164823 165188
NMB0170 septum site-determining protein MinC 165338 166048
NMB0171 septum site-determining protein MinD 166079 166891
NMB0172 cell division topological specificity factor 166898 167158
NMB0173 transcriptional regulator, LysR family 167165 168082
NMB0174 valyl-tRNA synthetase 171252 168418
NMB0175 conserved hypothetical protein 172158 171352
NMB0176 D-amino acid dehydrogenase, small subunit 173595 172342
NMB0177 sodium/alanine symporter, putative 175065 173677
NMB0178 acyl-(acyl-carrier-protein)--UDP-N-acetylglucosamine O-
        acyltransferase 176198 175425
```

Appendix B   -4-

```
NMB0179 (3R)-hydroxymyristoyl-(acyl carrier protein) dehydratase 176734
        176288
NMB0180 UDP-3-O-(3-hydroxymyristoyl)-glucosamine N-acyltransferase 177814
        176771
NMB0181 outer membrane protein OmpH, putative 178347 177850
NMB0182 outer membrane protein Omp85 180806 178416
NMB0183 conserved hypothetical protein 182203 180866
NMB0184 1-deoxy-D-xylulose 5-phosphate reductoisomerase 183422 182241
NMB0185 phosphatidate cytidylyltransferase 184275 183481
NMB0186 undecaprenyl pyrophosphate synthetase 185024 184281
NMB0187 ribosome recycling factor 185637 185083
NMB0188 conserved hypothetical protein 186944 185820
NMB0189 hypothetical protein 187355 187774
NMB0190 glucose inhibited division protein B 187935 188555
NMB0191 ParA family protein 188657 189427
NMB0192 ribonuclease HII 191274 190693
NMB0193 glucose inhibited division protein A 193238 191346
NMB0194 amino acid symporter, putative 194991 193567
NMB0195 pyridoxal phosphate biosynthetic protein PdxA 195133 196137
NMB0196 ribonuclease E 200197 197441
NMB0197 hypothetical protein 200321 200605
NMB0198 ribosomal large subunit pseudouridine synthase C 200690 201679
NMB0199 lipid-A-disaccharide synthase 201730 202899
NMB0200 hypothetical protein 203501 203115
NMB0201 hypothetical protein 203724 204131
NMB0202 hypothetical protein 204152 204322
NMB0203 dihydrodipicolinate reductase 205207 204401
NMB0204 lipoprotein, putative 205594 205220
NMB0205 ferric uptake regulation protein 205813 206244
NMB0206 leucyl/phenylalanyl-tRNA--protein transferase 206317 207039
NMB0207 glyceraldehyde 3-phosphate dehydrogenase 208326 207298
NMB0208 ferredoxin, 4Fe-4S bacterial type 209364 208528
NMB0209 glutathione-regulated potassium-efflux system protein 209513
        211486
NMB0210 site-specific DNA methylase, truncation 212082 212401
NMB0211 L-serine dehydratase 214093 212711
NMB0212 DNA gyrase subunit B 216580 214193
NMB0213 hypothetical protein 216736 217719
NMB0214 oligopeptidase A 217810 219843
NMB0215 conserved hypothetical protein 221035 220472
NMB0216 catalase 222945 221434
NMB0217 RNA polymerase sigma-54 factor RpoN, putative 223293 224141
NMB0218 glycosyltransferase 226194 225067
NMB0219 3-oxoacyl-(acyl-carrier-protein) synthase II 227746 226502
NMB0220 acyl carrier protein 228138 227905
NMB0221 dihydroorotate dehydrogenase 228370 229374
NMB0222 hypothetical protein 229540 230010
NMB0223 hypothetical protein 230140 230355
NMB0224 glutamate-ammonia-ligase adenylyltransferase 230556 233243
NMB0225 transposase, IS30 family FRAMESHIFT 234513 233551
NMB0226 conserved hypothetical protein 235470 234781
NMB0227 conserved hypothetical protein 236771 235581
NMB0228 conserved hypothetical protein 237637 236903
NMB0229 conserved hypothetical protein FRAMESHIFT 238552 237662
NMB0230 conserved hypothetical protein 239196 238552
NMB0231 hypothetical protein 239356 239255 N
NMB0232 DNA helicase II 239380 241584
NMB0233 hypothetical protein 241663 241761
NMB0234 hypothetical protein 242111 242647
NMB0235 hypothetical protein 243052 242894
NMB0236 hypothetical protein 243168 243063
NMB0237 hypothetical protein 243535 243179
NMB0238 IS1016 family transposase, degenerate 243588 243849
NMB0239 hypothetical protein 244051 244668
```

Appendix B   -5-

```
NMB0240 hypothetical protein 244694 246142
NMB0241 NADH dehydrogenase I, A subunit 246607 246960
NMB0242 NADH dehydrogenase I, B subunit 246954 247433
NMB0243 NADH dehydrogenase I, C subunit 247449 248039
NMB0244 NADH dehydrogenase I, D subunit 248032 249285
NMB0245 NADH dehydrogenase I, E subunit 249288 249758
NMB0246 NADH dehydrogenase I, F subunit 250151 251449
NMB0247 hypothetical protein 251452 251886
NMB0248 conserved hypothetical protein 252175 252411
NMB0249 NADH dehydrogenase I, G subunit 252726 254984
NMB0250 NADH dehydrogenase I, H subunit 254990 256063
NMB0251 NADH dehydrogenase I, I subunit 256147 256623
NMB0252 hypothetical protein 256657 257361
NMB0253 NADH dehydrogenase I, J subunit 257400 258068
NMB0254 NADH dehydrogenase I, K subunit 258068 258370
NMB0255 cell filamentation protein Fic-related protein 258407 258979
NMB0256 hypothetical protein 259106 259444
NMB0257 NADH dehydrogenase I, L subunit 259496 261517
NMB0258 NADH dehydrogenase I, M subunit 261616 263109
NMB0259 NADH dehydrogenase I, N subunit 263122 264561
NMB0260 hypothetical protein 264612 264995
NMB0261 geranyltranstransferase 265863 265087
NMB0262 exodeoxyribonuclease, small subunit 266188 265967
NMB0263 conserved hypothetical protein 267358 266438
NMB0264 ABC transporter, ATP-binding protein 269219 267366
NMB0265 Holliday junction DNA helicase RuvA 269966 269385
NMB0266 conserved hypothetical protein 270374 270051
NMB0267 conserved hypothetical protein 271155 270439
NMB0268 RNA methyltransferase, TrmH family 271749 271288
NMB0269 competence protein 272539 271817
NMB0270 bioH protein, putative 272538 273284
NMB0271 hypothetical protein 273284 274069
NMB0272 hypothetical protein 274527 274820
NMB0273 hypothetical protein 274861 275283
NMB0274 ATP-dependent DNA helicase RecQ 277728 275431
NMB0275 indole-3-glycerol phosphate synthase 278575 277796
NMB0276 conserved hypothetical protein 279582 278629
NMB0277 virulence factor MviN 281255 279717
NMB0278 thiol:disulfide interchange protein DsbA 281470 282165
NMB0279 conserved hypothetical protein 283229 282228
NMB0280 organic solvent tolerance protein, putative 283431 285704
NMB0281 peptidyl-prolyl cis-trans isomerase 285809 286852
NMB0282 ribonuclease II-related protein 290243 288366
NMB0283 conserved hypothetical protein 290552 291181
NMB0284 adenylosuccinate lyase 291256 292623
NMB0285 O-antigen acetylase FRAMESHIFT 292707 294573
NMB0286 conserved hypothetical protein 295481 294870
NMB0287 probable ATP-dependent helicase DinG 297668 295521
NMB0288 hypothetical protein 297740 297967
NMB0289 deoxyribodipyrimidine photolyase, FRAMESHIFT 299363 298066
NMB0290 transcriptional regulator, putative 300264 299356
NMB0291 conserved hypothetical protein 300372 300767
NMB0292 conserved hypothetical protein 300819 301421
NMB0293 TonB-dependent receptor, putative 301610 303718
NMB0294 thiol:disulfide interchange protein DsbA 303836 304528
NMB0295 signal recognition particle protein 306232 304865
NMB0296 CcsA-related protein 306452 307255
NMB0297 hypothetical protein 307272 307367
NMB0298 hypothetical protein 307401 307583
NMB0299 comEA-related protein 313097 313540
NMB0300 hypothetical protein 313603 313904
NMB0301 Hypothetical protein 313958 314161
NMB0302 IS1016C2 transposase, degenerate 314284 314933
NMB0303 transposase, degenerate 315024 315307
```

Appendix B   -6-

NMB0304 class 5 outer membrane protein, degenerate 315549 315295
NMB0305 hypothetical protein 315891 315736
NMB0306 hypothetical protein 316061 316252
NMB0307 phospho-2-dehydro-3-deoxyheptonate aldolase, phe-sensitive 316403
        317455
NMB0308 dihydrofolate reductase 317526 318011
NMB0309 conserved hypothetical protein 318840 318367
NMB0310 conserved hypothetical protein 319280 318855
NMB0311 hypothetical protein 319392 319634
NMB0312 virulence-associated protein VapA FRAMESHIFT 321089 323177
NMB0313 conserved hypothetical protein 323422 324885
NMB0314 hypothetical protein 326057 325092
NMB0315 conserved hypothetical protein 326135 327424
NMB0316 conserved hypothetical protein 328616 327933
NMB0317 conserved hypothetical protein 329164 328694
NMB0318 fatty acid efflux system protein 329606 330757
NMB0319 fatty acid efflux system protein 330784 332307
NMB0320 hypothetical protein 332373 332519
NMB0321 50S ribosomal protein L28 332560 332790
NMB0322 50S ribosomal protein L33 332825 332977
NMB0323 UbiH family protein 334353 333172
NMB0324 50S ribosomal protein L27 334964 334695
NMB0325 50S ribosomal protein L21 335297 334992
NMB0326 octaprenyl-diphosphate synthase 335521 336492
NMB0327 conserved hypothetical protein FRAMESHIFT 336500 336944
NMB0328 hypothetical protein 336993 337165
NMB0329 type IV pilus assembly protein 337388 339061
NMB0330 conserved hypothetical protein 339358 339152
NMB0331 kinase, putative 339983 339354
NMB0332 type IV prepilin peptidase 340845 339988
NMB0333 pilus assembly protein PilG 342151 340922
NMB0334 glucose-6-phosphate isomerase 342508 344148
NMB0335 2,3,4,5-tetrahydropyridine-2-carboxylate N-succinyltransferase
        344361 345179
NMB0336 enoyl-(acyl-carrier-protein) reductase 345337 346119
NMB0337 branched-chain amino acid aminotransferase, putative 347364 346369
NMB0338 hypothetical protein 347506 347985
NMB0339 conserved hypothetical protein 347999 349165
NMB0340 lactoylglutathione lyase FRAMESHIFT 349193 349605
NMB0341 tspA protein 352407 349783
NMB0342 intracellular septation protein A 352613 353140
NMB0343 conserved hypothetical protein 353158 353433
NMB0344 BolA/YrbA family protein 353436 353711
NMB0345 cell-binding factor, putative 353763 354626
NMB0346 hypothetical protein 354700 355455
NMB0347 conserved hypothetical protein 355531 356019
NMB0348 conserved hypothetical protein 356053 357060
NMB0349 glutamyl-tRNA synthetase-related protein 358020 357136
NMB0350 hypothetical protein 358760 358311
NMB0351 transaldolase 359966 358914
NMB0352 sugar isomerase, KpsF/GutQ family 360063 361034
NMB0353 conserved hypothetical protein 361255 361788
NMB0354 hypothetical protein 361788 362366
NMB0355 conserved hypothetical protein 362350 362877
NMB0356 ABC transporter, ATP-binding protein 362924 363685
NMB0357 monofunctional biosynthetic peptidoglycan transglycosylase 364858
        364160
NMB0358 shikimate 5-dehydrogenase 365670 364864
NMB0359 glutamate--ammonia ligase 365970 367385
NMB0360 AmpG-related protein 367544 368824
NMB0361 conserved hypothetical protein 368824 369096
NMB0362 hypothetical protein 369205 369282
NMB0363 hypothetical protein 369610 369744
NMB0364 FrpC operon protein 370088 370858

Appendix B   -7-

NMB0365 iron-regulated protein FrpC, truncation 370878 371150
NMB0366 hypothetical protein 372373 371243
NMB0367 hypothetical protein 372823 372440
NMB0368 hypothetical protein 373350 372895
NMB0369 hypothetical protein 373720 373334
NMB0370 hypothetical protein 374229 373855
NMB0371 hypothetical protein 374658 374254
NMB0372 hypothetical protein 375341 374667
NMB0373 hypothetical protein 375915 375559
NMB0374 MafB-related protein 377321 375921
NMB0375 mafA protein 378266 377328
NMB0376 hypothetical protein 378379 378266
NMB0377 conserved hypothetical protein 379516 378389
NMB0378 phosphate permease, putative 379807 381378
NMB0379 oxygen-independent coproporphyrinogen III oxidase 383155 381737
NMB0380 transcriptional regulator, Crp/Fnr family 383360 384091
NMB0381 cys regulon transcriptional activator 385157 384210
NMB0382 outer membrane protein class 4 385521 386246
NMB0383 hypothetical protein 386270 386494
NMB0384 hypothetical protein 386773 387066
NMB0385 thiamin-monophosphate kinase 387100 388053
NMB0386 phosphatidylglycerophosphatase A 388049 388531
NMB0387 ABC transporter, ATP-binding protein 390270 388597
NMB0388 sugar transporter, putative 390657 392009
NMB0389 aldose 1-epimerase 392016 393023
NMB0390 maltose phosphorylase 393260 395515
NMB0391 beta-phosphoglucomutase 395531 396193
NMB0392 l-aspartate oxidase 397882 396377
NMB0393 multidrug resistance protein 398266 397934
NMB0394 quinolinate synthetase A 399530 398421
NMB0395 conserved hypothetical protein 399732 400667
NMB0396 nicotinate-nucleotide pyrophosphorylase 400888 401766
NMB0397 hypothetical protein 401797 402081
NMB0398 transcriptional regulator, ArsR family 402176 402454
NMB0399 exodeoxyribonuclease III 402517 403284
NMB0400 transposase, truncated 404230 404799
NMB0401 proline dehydrogenase 409441 405839
NMB0402 sodium/proline symporter 411216 409693
NMB0403 hypothetical protein 411644 411555
NMB0404 conserved hypothetical protein 411699 412016
NMB0405 competence protein ComM 412033 413526
NMB0406 conserved hypothetical protein 413629 414495
NMB0407 thiol:disulfide interchange protein DsbA 414501 415142
NMB0408 bacitracin resistance protein 415178 415996
NMB0409 conserved hypothetical protein 417783 416575
NMB0410 conserved hypothetical protein 418062 418514
NMB0411 conserved hypothetical protein 418514 419497
NMB0412 cell division protein FtsL-related protein 419491 419757
NMB0413 penicillin-binding protein 2 419821 421563
NMB0414 UDP-N-acetylmuramoylalanyl-D-glutamate--2,6-diaminopimelate ligase
        421591 423066
NMB0415 conserved hypothetical protein FRAMESHIFT 423092 424736
NMB0416UDP-N-acetylmuramoylalanyl-D-glutamyl-2,6-diaminopimelate--D-
        alanyl-D- alanyl ligase 424864 426228
NMB0417 hypothetical protein 426234 426407
NMB0418 phospho-N-acetylmuramoyl-pentapeptide-transferase 426657 427736
NMB0419 conserved hypothetical protein 427865 428458
NMB0420 UDP-N-acetylmuramoylalanine--D-glutamate ligase 428545 429879
NMB0421 cell division protein FtsW 430062 431330
NMB0422 UDP-N-acetylglucosamine--N-acetylmuramyl-(pentapeptide)
        pyrophosphoryl-undecaprenol N-acetylglucosamine transferase
        431337 432401
NMB0423 UDP-N-acetylmuramate--alanine ligase 432559 433965
NMB0424 D-alanine--D-alanine ligase 434081 434992

Appendix B   -8-

```
NMB0425 cell division protein FtsQ 435006 435710
NMB0426 cell division protein FtsA 435799 437040
NMB0427 cell division protein FtsZ 437162 438337
NMB0428 conserved hypothetical protein 438479 439786
NMB0429 hypothetical protein 440162 440263
NMB0430 carboxyphosphonoenolpyruvate phosphonomutase, putative 440412
        441287
NMB0431 methylcitrate synthase/citrate synthase 2 441376 442527
NMB0432 conserved hypothetical protein 442683 443468
NMB0433 aconitate hydratase 1 443549 446152
NMB0434 conserved hypothetical protein 446958 448124
NMB0435 acetate kinase 448541 449737
NMB0436 conserved hypothetical protein 450078 450716
NMB0437 conserved hypothetical protein 451289 450849
NMB0438 hypothetical protein 451463 451828
NMB0439 conserved hypothetical protein 451876 453027
NMB0440 prephenate dehydrogenase, putative 453959 453090
NMB0441 nitrilase 454044 454853
NMB0442 opacity protein FRAMESHIFT 455681 454888
NMB0443 transposase, IS30 family 456456 457418
NMB0444 conserved hypothetical protein 457979 458830
NMB0445 bicyclomycin resistance protein, putative 459352 460581
NMB0446 chorismate mutase/prephenate dehydratase 460662 461747
NMB0447 DNA repair protein RecO 461787 462575
NMB0448 pyridoxal phosphate biosynthetic protein PdxJ 462602 463327
NMB0449 hypothetical protein 463482 463703
NMB0450 hypothetical protein 463968 464411
NMB0451 hypothetical protein 464424 465188
NMB0452 holo-(acyl-carrier protein) synthase 465391 465765
NMB0453 mutT protein 465850 466656
NMB0454 hypothetical protein 466652 467071
NMB0455 conserved hypothetical protein 467123 468262        .
NMB0456 N-acetylmuramoyl-L-alanine amidase 469573 468326
NMB0457 conserved hypothetical protein 470031 469573
NMB0458 glutamate racemase 470233 471042
NMB0459 conserved hypothetical protein 473202 472096
NMB0460 transferrin-binding protein 2 475573 477708
NMB0461 transferrin-binding protein 1 477798 480542
NMB0462 spermidine/putrescine ABC transporter, periplasmic
        spermidine/putrescine-binding protein 483195 481819
NMB0463 30S ribosomal protein S20 483261 483521
NMB0464 phospholipase A1, putative 483685 484830
NMB0465 conserved hypothetical protein 484976 485674
NMB0466 aspartyl-tRNA synthetase 485735 487540
NMB0467 hypothetical protein 487694 487975
NMB0468 biosynthetic arginine decarboxylase 488145 490034
NMB0469 agmatinase 490136 491056
NMB0470 C4-dicarboxylate transporter 491257 492720
NMB0471 conserved hypothetical protein 494006 492933
NMB0472 8-amino-7-oxononanoate synthase 494229 495368
NMB0473 conserved hypothetical protein 495381 496025
NMB0474 biotin synthesis protein BioC, putative 496016 496795
NMB0475 hypothetical protein 497063 498451
NMB0476 hypothetical protein 498457 499551
NMB0477 conserved hypothetical protein 499566 500099
NMB0478 hypothetical protein 500104 500745
NMB0479 conserved hypothetical protein 500771 501127
NMB0480 TspB-related protein 502193 501801
NMB0481 hypothetical protein 502509 502180
NMB0482 hypothetical protein 502900 502625
NMB0483 Hypothetical protein 503191 502910
NMB0484 hypothetical protein 503396 503202
NMB0485 hypothetical protein 503691 503404
NMB0486 conserved hypothetical protein FRAMESHIFT 505078 503739
```

Appendix B   -9-

```
NMB0487 hypothetical protein 505244 505152
NMB0488 hypothetical protein 505800 505309
NMB0489 hypothetical protein 506682 505804
NMB0490 PspA-related protein 507809 506910
NMB0491 hypothetical protein 508744 508304
NMB0492 hypothetical protein 509383 509063
NMB0493 hemagglutinin/hemolysin-related protein 517494 509386
NMB0494 DNA helicase, truncation 518107 517625
NMB0495 replication protein 519187 518207
NMB0496 hemolysin activator-related protein 519134 520810
NMB0497 hemagglutinin/hemolysin-related protein 520922 526826
NMB0498 hypothetical protein 526836 527342
NMB0499 hypothetical protein 527471 529090
NMB0500 hypothetical protein 529102 529476
NMB0501 hypothetical protein 529757 530128
NMB0502 hypothetical protein 530166 532115
NMB0503 hypothetical protein 532134 532562
NMB0504 hypothetical protein 532780 532992
NMB0506 hypothetical protein 533691 535208
NMB0507 hypothetical protein 535208 535693
NMB0508 hypothetical protein 535883 536152
NMB0509 hypothetical protein 536335 537114
NMB0510 hypothetical protein 537136 537396
NMB0511 hypothetical protein 537506 539425
NMB0512 hypothetical protein 539437 539856
NMB0513 hypothetical protein 539896 540294
NMB0514 hypothetical protein 540420 540656
NMB0515 hypothetical protein 540656 541036
NMB0516 hypothetical protein 541042 541974
NMB0517 hypothetical protein 542172 542020
NMB0518 hypothetical protein 542486 542734
NMB0519 hypothetical protein 542725 542925
NMB0520 hypothetical protein 542931 543107
NMB0521 hypothetical protein 543492 543947
NMB0522 transposase, truncated 543958 544080
NMB0523 ABC transporter, ATP-binding protein, truncation 544162 544441
NMB0524 ribonuclease BN, putative 545691 544474
NMB0525 aluminum resistance protein, putative 546236 546892
NMB0526 hypothetical protein 546923 547438
NMB0527 6-pyruvoyl tetrahydrobiopterin synthase, putative 547448 547867
NMB0528 conserved hypothetical protein 548139 548507
NMB0529 conserved hypothetical protein 548507 549142
NMB0530 glycosyl hydrolase, family 3 550869 549787
NMB0531 conserved hypothetical protein 552446 550929
NMB0532 protease DO 554147 552651
NMB0533 endonuclease III 554914 554288
NMB0534 conserved hypothetical protein 555373 554963
NMB0535 glucose/galactose transporter 555906 557183
NMB0536 Na+/H+ antiporter 557477 558853
NMB0537 conserved hypothetical protein 559809 558988
NMB0538 conserved hypothetical protein 560326 559820
NMB0539 porphobilinogen deaminase 560445 561377
NMB0540 aspartate aminotransferase 562977 561787
NMB0541 hypothetical protein 563556 563062
NMB0542 hypothetical protein 563672 563872
NMB0543 L-lactate permease, putative 565630 564047
NMB0544 conserved hypothetical protein 566621 565902
NMB0545 conserved hypothetical protein 566870 570352
NMB0546 alcohol dehydrogenase, propanol-preferring 571566 570523
NMB0547 type IV pilin protein 572238 571852
NMB0548 AcrA/AcrE family protein 572464 573639
NMB0549 ABC transporter, ATP-binding protein 573708 575639
NMB0550 thiol:disulfide interchange protein DsbC 576837 576058
NMB0551 primosomal protein n` 576975 579161
```

Appendix B   -10-

NMB0552 hypothetical protein 580284 579214
NMB0553 transposase, putative, POINT MUTATION 581288 580335
NMB0554 dnaK protein 584451 582526
NMB0555 hypothetical protein 584931 584662
NMB0556 repressor protein, putative 585119 585802
NMB0557 conserved hypothetical protein 585937 586272
NMB0558 hypothetical protein 586435 586896
NMB0559 ubiquinone biosynthesis protein AarF 586934 588442
NMB0560 serine acetyltransferase 589620 588805
NMB0561 grpE protein 589804 590379
NMB0562 conserved hypothetical protein 590874 590662
NMB0563 thiamine biosynthesis lipoprotein ApbE 591955 590903
NMB0564 Na(+)-translocating NADH-quinone reductase, subunit F 593325
        592111
NMB0565 Na(+)-translocating NADH-quinone reductase, subunit E 593932
        593342
NMB0566 Na(+)-translocating NADH-quinone reductase, subunit D 594562
        593939
NMB0567 Na(+)-translocating NADH-quinone reductase, subunit C 595338
        594565
NMB0568 Na(+)-translocating NADH-quinone reductase, subunit B 596563
        595334
NMB0569 Na(+)-translocating NADH-quinone reductase, subunit A 597909
        596569
NMB0570 hypothetical protein 599680 598262
NMB0571 conserved hypothetical protein 600400 600044
NMB0572 hypothetical protein 601002 600400
NMB0573 transcriptional regulator, AsnC family 601612 601052
NMB0574 glycine cleavage system T protein 602042 603139
NMB0575 glycine cleavage system H protein 603304 603687
NMB0576 glutamyl-tRNA reductase 603842 605086
NMB0577 NosR-related protein 605365 605934
NMB0578 copper ABC transporter, periplasmic copper-binding protein 605991
        607022
NMB0579 copper ABC transporter, ATP-binding protein 607083 607700
NMB0580 protein disulfide isomerase NosL, putative 607842 608333
NMB0581 electron transfer flavoprotein-ubiquinone oxidoreductase 610085
        608427
NMB0582 bacteriocin resistance protein, putative 610757 610218
NMB0583 IS1016C2 transposase 612651 611986
NMB0584 FrpC operon protein 613242 614054
NMB0585 iron-regulated protein FrpA, putative 614074 617979
NMB0586 adhesin, putative 619176 618265
NMB0587 membrane protein 620128 619256
NMB0588 ABC transporter, ATP-binding protein 620907 620155
NMB0589 50s ribosomal protein L19 621563 621201
NMB0590 tRNA (guanine-N1)-methyltransferase FRAMESHIFT 622329 621582
NMB0591 16S rRNA processing protein RimM 622838 622332
NMB0592 30S ribosomal protein S16 623099 622857
NMB0593 conserved hypothetical protein 625570 623147
NMB0594 sensor histidine kinase 627094 625691
NMB0595 DNA-binding response regulator 627785 627111
NMB0596 hypothetical protein 629789 627978
NMB0597 hypothetical protein 630132 629782
NMB0598 Maf/YceF/YhdE family protein 630749 630144
NMB0599 conserved hypothetical protein 631572 630805
NMB0600 hypothetical protein 632272 631589
NMB0601 conserved hypothetical protein 632479 632279
NMB0602 hitA protein 632849 632529
NMB0603 phosphoribosyl-ATP cyclohydrolase 633244 632924
NMB0604 alcohol dehydrogenase, zinc-containing 634449 633388
NMB0605 histone deacetylase family protein 636107 635001
NMB0606 conserved hypothetical protein 636235 636498
NMB0607 protein-export membrane protein SecD 636710 638563

Appendix B   -11-

NMB0608 protein-export membrane protein SecF 638570 639502
NMB0609 30s ribosomal protein S15 639728 639994
NMB0610 spermidine/putrescine ABC transporter, ATP-binding protein 640243
         641499
NMB0611 spermidine/putrescine ABC transporter, permease protein 641518
         642480
NMB0612 spermidine/putrescine ABC transporter, permease protein 642483
         643367
NMB0613 hypothetical protein 643392 643496
NMB0614 oxidoreductase, putative 643496 644788
NMB0615 ammonium transporter AmtB, putative 646340 645039
NMB0616 IS1016 family transposase, degenerate 647272 646871
NMB0617 transcription termination factor Rho 648837 647581
NMB0618 phosphoenolpyruvate synthase 651441 649060
NMB0619 conserved hypothetical protein 651853 652671
NMB0620 phosphoglycolate phosphatase 653575 652916
NMB0621 conserved hypothetical protein 654440 653616
NMB0622 outer membrane lipoprotein carrier protein 654867 655487
NMB0623 spermidine/putrescine ABC transporter, periplasmic
         spermidine/putrescine-binding protein 655763 656899
NMB0624 galactosyltransferase-related protein FRAMESHIFT 657035 658253
NMB0625 conserved hypothetical protein 658297 658824
NMB0626 peptide chain release factor 3 660797 659205
NMB0627 phosphoribosyl-AMP cyclohydrolase 661299 660907
NMB0628 hisF protein 662097 661333
NMB0629 phosphoribosylformimino-5-aminoimidazole carboxamide ribotide
         isomerase 662847 662113
NMB0630 amidotransferase HisH 663518 662883
NMB0631 phosphate acetyltransferase Pta, putative 665151 663652
NMB0632 iron(III) ABC transporter, ATP-binding protein 666394 665339
NMB0633 iron(III) ABC transporter, permease protein 667932 666418
NMB0634 iron(III) ABC transporter, periplasmic binding protein 668995
         668003
NMB0635 transposase, IS30 family 670247 669285
NMB0636 hypothetical protein 670794 670414
NMB0637 argininosuccinate lyase 672228 670855
NMB0638 UTP--glucose-1-phosphate uridylyltransferase 673116 672250
NMB0639 conserved hypothetical protein 673743 673147
NMB0640 hypothetical protein 673969 673739
NMB0641 inorganic pyrophosphatase 674610 674080
NMB0642 dATP pyrophosphohydrolase 675169 674714
NMB0643 MafB-related protein 675614 677437
NMB0644 hypothetical protein 677443 677904
NMB0645 ribonuclease FRAMESHIFT 677948 678275
NMB0646 ribonuclease inhibitor barstar 678290 678574
NMB0647 hypothetical protein 679091 680326
NMB0648 hypothetical protein 680357 680776
NMB0649 hypothetical protein 680970 681191
NMB0650 hypothetical protein 681167 681583
NMB0651 hypothetical protein 681687 682073
NMB0652 mafA protein 682199 683137
NMB0653 MafB-related protein 683144 684409
NMB0654 hypothetical protein 684415 684729
NMB0655 hypothetical protein 684867 685571
NMB0656 hypothetical protein 685600 685926
NMB0657 hypothetical protein 686024 686224
NMB0658 Hypothetical protein 686055 686312
NMB0659 hypothetical protein 686346 686744
NMB0660 hypothetical protein 686929 687315
NMB0661 bis(5`-nucleosyl)-tetraphosphatase, symmetrical/Trk system
         potassium uptake protein TrkG FRAMESHIFT 689659 687362
         NMB0662 ribonuclease, putative 690126 689740
NMB0663 outer membrane protein NsgA 690786 690265
NMB0664 hypothetical protein 691151 690960

Appendix B   -12-

NMB0665 oxygen-independent coprophorphyrinogen III oxidase family protein
        692546 691374
NMB0666 DNA ligase 695128 692606
NMB0667 hypothetical protein 696562 695279
NMB0668 ampD protein 697352 696783
NMB0669 conserved hypothetical protein 697436 698428
NMB0670 thymidylate kinase 698491 699108
NMB0671 malate oxidoreductase (NAD) 699333 700610
NMB0672 tetraacyldisaccharide 4`-kinase 701160 702191
NMB0673 hypothetical protein 702394 702978
NMB0674 conserved hypothetical protein 703050 703229
NMB0675 3-deoxy-D-manno-octulosonate cytidylyltransferase 703229 703987
NMB0676 hypothetical protein 704013 704411
NMB0677 hypothetical protein 704610 704723
NMB0678 tryptophan synthase, alpha subunit 705306 706088
NMB0679 acetyl-CoA carboxylase, carboxyl transferase beta subunit 706129
        706998
NMB0680 cryptic protein 707672 707064
NMB0681 conserved hypothetical protein 707781 708002
NMB0682 dihydroorotase 708368 709399
NMB0683 N utilization substance protein B 710195 709773
NMB0684 riboflavin synthase, beta subunit 710749 710276
NMB0685 hypothetical protein 711120 710800
NMB0686 ribonuclease III 711287 712003
NMB0687 GTP-binding protein Era 712003 712974
NMB0688 N-(5'-phosphoribosyl)anthranilate isomerase 715446 714823
NMB0689 transcription elongation factor GreB 715996 715508
NMB0690 amidophosphoribosyltransferase 717640 716099
NMB0691 colicin V production protein, putative 718450 717956
NMB0692 tpc protein 719441 718446
NMB0693 folylpolyglutamate synthase/dihydrofolate synthase 720728 719457
NMB0694 folI protein 721205 720762
NMB0695 hypothetical protein 721569 721213
NMB0696 amino acid ABC transporter, ATP-binding protein FRAMESHIFT 722369
        721645
NMB0697 dimethyladenosine transferase 723321 722545
NMB0698 hypothetical protein 723518 724204
NMB0699 tryptophan synthase, beta subunit 724290 725489
NMB0700 IgA-specific serine endopeptidase 731118 725674
NMB0701 hypothetical protein 731531 731280
NMB0702 competence protein ComA 732529 734601
NMB0703 competence lipoprotein ComL 735635 734835
NMB0704 ribosomal large subunit pseudouridine synthase D 735634 736755
NMB0705 transporter 737858 736914
NMB0706 conserved hypothetical protein 738418 739194
NMB0707 rare lipoprotein B, putative 739249 739725
NMB0708 DNA polymerase III, delta subunit 739730 740725
NMB0709 Hypothetical protein 740849 741265
NMB0710 Hypothetical protein 741293 741856
NMB0711 conserved hypothetical protein FRAMESHIFT 742826 741946
NMB0712 RNA polymerase sigma-32 factor 744182 743313
NMB0713 apolipoprotein N-acyltransferase, putative 746012 744441
NMB0714 conserved hypothetical protein FRAMESHIFT 746771 746019
NMB0715 Hypothetical protein 746967 747284
NMB0716 Hypothetical protein 747440 747727
NMB0717 cytochrome, putative 748209 747796
NMB0718 ferrochelatase 749572 748493
NMB0719 queuine tRNA-ribosyltransferase 750697 749585
NMB0720 threonyl-tRNA synthetase 751005 752915
NMB0721 translation initiation factor 3 752990 753454
NMB0722 50S ribosomal protein L35 753604 753798
NMB0723 50S ribosomal protein L20 753814 754170
NMB0724 phenylalanyl-tRNA synthetase, alpha chain 754519 755508
NMB0725 modification methylase HgaI-1 755694 756749

Appendix B   -13-

```
NMB0726 type II restriction enzyme HgaI 756755 758221
NMB0727 N-6 adenine-specific DNA methylase 758221 758868
NMB0728 phenylalanyl-tRNA synthetase, beta chain 758896 761256
NMB0729 integration host factor, alpha subunit 761333 761632
NMB0730 hypothetical protein 762257 762739
NMB0731 hypothetical protein 763002 763226
NMB0732 adenosylmethionine-8-amino-7-oxononanoate aminotransferase 763559
        764857
NMB0733 dethiobiotin synthase 764857 765501
NMB0734 hypothetical protein 765519 765992
NMB0735 4-hydroxybenzoate octaprenyltransferase 766025 766912
NMB0736 PTS system, nitrogen regulatory IIA protein 767100 767546
NMB0737 HPr kinase/phosphatase, putative 767551 768510
NMB0738 conserved hypothetical protein 768494 769345
NMB0739 conserved hypothetical protein 769429 770943
NMB0740 DNA repair protein RecN 771255 772925
NMB0741 conserved hypothetical protein 775384 773948
NMB0742 conserved hypothetical protein 775684 776040
NMB0743 ubiquinone/menaquinone biosynthesis methlytransferase UbiE 776097
        776831
NMB0744 hypothetical protein 777054 777530
NMB0745 2-amino-4-hydroxy-6-hydroxymethyldihydropteridine-
        pyrophosphokinase 778153 777662
NMB0746 conserved hypothetical protein 778537 778166
NMB0747 conserved hypothetical protein 779157 778594
NMB0748 host factor-I 779535 779245
NMB0749 penicillin-binding protein 4 780602 779667
NMB0750 bacterioferritin comigratory protein 780923 781360
NMB0751 integrase/recombinase XerD 781415 782287
NMB0752 bacterioferritin-associated ferredoxin, putative 782462 782659
NMB0753 conserved hypothetical protein 782828 783058
NMB0754 hypothetical protein 783066 783173
NMB0755 hypothetical protein 783194 783334
NMB0756 dTDP-L-rhamnose synthase, putative 784398 783481
NMB0757 phosphoribosylaminoimidazole-succinocarboxamide synthase 784598
        785458
NMB0758 polyribonucleotide nucleotidyltransferase 785695 787815
NMB0759 conserved hypothetical protein 788619 787894
NMB0760 diaminopimelate epimerase 789006 789854
NMB0761 hypothetical protein 789940 790164
NMB0762 hypothetical protein 790198 790653
NMB0763 cysteine synthase 790653 791582
NMB0764 conserved hypothetical protein 792048 792950
NMB0765 signal peptidase I 794128 793112
NMB0766 GTP-binding protein LepA 796064 794274
NMB0767 5-methylthioadenosine nucleosidase/S-adenosylhomocysteine
        nucleosidase 796909 796211
NMB0768 twitching motility protein PilT 797095 798204
NMB0769 DNA polymerase III, delta prime subunit, putative 798241 799215
NMB0770 type IV pilus assembly protein PilZ, putative 799222 799569
NMB0771 conserved hypothetical protein 799577 800353
NMB0772 conserved hypothetical protein 800382 800594
NMB0773 conserved hypothetical protein 800698 801006
NMB0774 uracil phosphoribosyltransferase 801115 801738
NMB0775 hypothetical protein 801764 802081
NMB0776 conserved hypothetical protein 802335 802751
NMB0777 uroporphyrinogen-III synthase HemD, putative 802796 803533
NMB0778 uroporphyrin-III C-methyltransferase HemX, putative 803611 804882
NMB0779 hypothetical protein 804882 806102
NMB0780 hypothetical protein 806138 806575
NMB0781 uroporphyrinogen decarboxylase 806732 807793
NMB0782 DNA repair protein RadA 807982 809358
NMB0783 conserved hypothetical protein 810116 809640
NMB0784 phage shock protein E precursor, putative 810717 810361
```

Appendix B   -14-

```
NMB0785 exodeoxyribonuclease V 135 KD polypeptide 814370 810759
NMB0786 conserved hypothetical protein 815358 814453
NMB0787 amino acid ABC transporter, periplasmic amino acid-binding protein
        815643 816467
NMB0788 amino acid ABC transporter, permease protein 816514 817173
NMB0789 amino acid ABC transporter, ATP-binding protein 817186 817938
NMB0790 phosphoglucomutase 819343 817964
NMB0791 peptidyl-prolyl cis-trans isomerase 820019 819513
NMB0792 transporter, NadC family 821553 820141
NMB0793 hypothetical protein 821759 821553
NMB0794 hypothetical protein 822146 821787
NMB0795 peptidyl-tRNA hydrolase 822988 822413
NMB0796 conserved hypothetical protein 823319 823044
NMB0797 conserved hypothetical protein 823749 823315
NMB0798 cell division protein FtsH 825932 823968
NMB0799 cell division protein FtsJ 826616 825999
NMB0800 conserved hypothetical protein 826726 827007
NMB0801 delta-aminolevulinic acid dehydratase 827193 828191
NMB0802 cystathionine gamma-synthase 829414 828260
NMB0803 conserved hypothetical protein 829606 830376
NMB0804 NAD(P)H nitroreductase, putative 830489 831151
NMB0805 transposase, IS30 family 831295 832257
NMB0806 conserved hypothetical protein 833050 832295
NMB0807 conserved hypothetical protein 833965 833078
NMB0808 hypothetical protein 834551 833988
NMB0809 conserved hypothetical protein 835399 834605
NMB0810 transcriptional regulator, TetR family 836104 835457
NMB0811 UDP-N-acetylpyruvoylglucosamine reductase 837156 836119
NMB0812 conserved hypothetical protein 838579 837203
NMB0813 hypothetical protein 838634 838819
NMB0814 histidyl-tRNA synthetase 838914 840062
NMB0815 adenylosuccinate synthetase 840163 841464
NMB0816 hypothetical protein 841592 841903
NMB0817 hypothetical protein 841932 842312
NMB0818 hypothetical protein 842329 842736
NMB0819 hypothetical protein 842856 843245
NMB0820 hypothetical protein 843456 843845
NMB0821 hypothetical protein 843962 844519
NMB0822 heat shock protein HtpX 845866 844826
NMB0823 adenylate kinase 845878 846522
NMB0824 orotidine 5`-phosphate decarboxylase 847051 847788
NMB0825 ADP-heptose synthase, putative 847846 848814
NMB0826 C-5 cytosine-specific DNA methylase 848854 850086
NMB0827 type II restriction enzyme-related protein FRAMESHIFT 850091
        851119
NMB0828 ADP-L-glycero-D-mannoheptose-6-epimerase 851251 852252
NMB0829 type I restriction enzyme EcoR124II M protein 852329 853870
NMB0830 conserved hypothetical protein 853870 854877
NMB0831 type I restriction enzyme S protein, degenerate 855046 856216
NMB0832 anticodon nuclease 856277 857416
NMB0833 type I restriction enzyme-related protein 857416 857799
NMB0834 transposase, IS30 family 858756 857794
NMB0835 type I restriction enzyme EcoR124II R protein, putative 858832
        861594
NMB0836 ATP-dependent Clp protease, ATP-binding subunit ClpA 863945 861639
NMB0837 conserved hypothetical protein 864249 863950
NMB0838 cold-shock domain family protein 864492 864692
NMB0839 pmbA protein 866323 864995
NMB0840 conserved hypothetical protein 866446 866979
NMB0841 hypothetical protein 867029 867742
NMB0842 single-stranded-DNA-specific exonuclease RecJ 867814 869511
NMB0843 polyA polymerase 869811 871169
NMB0844 hypothetical protein 871345 871665
NMB0845 PhoH-related protein 872732 871782
```

Appendix B   -15-

```
NMB0846 LPS biosynthesis protein-related protein 873905 872874
NMB0847 hypothetical protein 874235 874065
NMB0848 hypothetical protein 874369 875070
NMB0849 deoxycytidine triphosphate deaminase, putative 875703 875140
NMB0850 hypothetical protein 876185 875772
NMB0851 recombination associated protein RdgC 877146 876250
NMB0852 essential GTPase 878634 877180
NMB0853 conserved hypothetical protein 879413 878787
NMB0854 histidyl-tRNA synthetase 880709 879417
NMB0855 bacteriocin resistance protein, putative 881459 880806
NMB0856 hypothetical protein 882208 881744
NMB0857 hypothetical protein 882441 882268
NMB0858 hypothetical protein 882645 882448
NMB0859 hypothetical protein 883025 882651
NMB0860 hypothetical protein 883340 883086
NMB0861 hypothetical protein 883975 883433
NMB0862 hypothetical protein 884091 883975
NMB0863 hypothetical protein 884410 884141
NMB0864 hypothetical protein 884966 884679
NMB0865 hypothetical protein 885445 884975
NMB0866 hypothetical protein 886357 885491
NMB0867 YabO/YceC/SfhB family protein 886521 887441
NMB0868 conserved hypothetical protein 888163 887525
NMB0869 hypothetical protein 889009 888221
NMB0870 3-methyl-2-oxobutanoate hydroxymethyltransferase 889502 890290
NMB0871 pantoate--beta-alanine ligase 890416 891249
NMB0872 conserved hypothetical protein 891416 893257
NMB0873 outer membrane lipoprotein LolB, putative 893400 893978
NMB0874 conserved hypothetical protein 893991 894833
NMB0875 ribose-phosphate pyrophosphokinase 895258 896238
NMB0876 50S ribosomal protein L25 896308 896877
NMB0877 penicillin-binding protein 898174 897008
NMB0878 threonine dehydratase 898322 899845
NMB0879 sulfate ABC transporter, ATP-binding protein 900978 899908
NMB0880 sulfate ABC transporter, permease protein 901835 900978
NMB0881 sulfate ABC transporter, permease protein 902923 902090
NMB0882 hypothetical protein 903214 903543
NMB0883 conserved hypothetical protein 903878 904384
NMB0884 superoxide dismutase 905491 904907
NMB0885 replicative DNA helicase 905655 907058
NMB0886 fimbrial protein FimT 907370 908035
NMB0887 type IV pilus assembly protein PilV, putatve 908056 908667
NMB0888 hypothetical protein 908667 909605
NMB0889 hypothetical protein 909587 910177
NMB0890 type IV pilin-related protein 910170 910655
NMB0891 hypothetical protein 911708 911944
NMB0892 AzlC-related protein 912795 912376
NMB0893 deoxyuridine 5`-triphosphate nucleotidohydrolase 912995 913444
NMB0894 aminotransferase, class I 913525 914709
NMB0895 conserved hypothetical protein 914975 915751
NMB0896 integrase, FRAMESHIFT 916283 917352
NMB0897 hypothetical protein 917468 917845
NMB0898 hypothetical protein 917894 918079
NMB0899 hypothetical protein 918396 918749
NMB0900 hypothetical protein 919621 920535
NMB0901 D-lactate dehydrogenase-related protein 920880 920599
NMB0902 hypothetical protein 921133 920945
NMB0903 hypothetical protein 921429 921139
NMB0904 hypothetical protein 921686 921429
NMB0905 hypothetical protein 921936 921724
NMB0906 hypothetical protein 922860 922009
NMB0907 hypothetical protein 923244 922888
NMB0908 hypothetical protein 923512 923315
NMB0909 hypothetical protein 924280 923759
```

Appendix B   -16-

```
NMB0910 transcriptional regulator 925000 924287
NMB0911 transposase, IS30 family 926382 925420
NMB0912 hypothetical protein 926526 927149
NMB0913 pemK protein 927552 927208
NMB0914 pemI protein 927790 927557
NMB0915 hypothetical protein 928640 928152
NMB0916 hypothetical protein 928799 928662
NMB0917 death-on-curing protein 929446 929081
NMB0918 hypothetical protein 929574 929446
NMB0919 IS1106 transposase, putative 930929 929973
NMB0920 isocitrate dehydrogenase 934317 932095
NMB0921 hypothetical protein 934522 934325
NMB0922 alpha-2,3-sialyltransferase 934750 935862
NMB0923 cytochrome c 936488 936033
NMB0924 oxidoreductase, short-chain dehydrogenase/reductase family 936607
        937425
NMB0925 acyl CoA thioester hydrolase family protein 937925 937482
NMB0926 opacity protein 940336 939513
NMB0927 proline iminopeptidase 941840 942769
NMB0928 hypothetical protein 944025 942832
NMB0929 dihydrodipicolinate synthase 944909 944037
NMB0930 xanthine/uracil permease family protein 945369 946757
NMB0931 RNA methyltransferase, TrmH family 947574 946825
NMB0932 conserved hypothetical protein 948129 947644
NMB0933 cytidine and deoxycytidylate deaminase family protein 948580
        948137
NMB0934 DNA transformation protein tfoX-related protein 948853 948625
NMB0935 tRNA delta(2)-isopentenylpyrophosphate transferase 949798 948860
NMB0936 hypothetical protein 951481 950180
NMB0937 elongation factor P (EF-P) 951788 952345
NMB0938 hypothetical protein 953235 952402
NMB0939 conserved hypothetical protein 953933 953355
NMB0940 homoserine O-acetyltransferase 955069 953933
NMB0941 50S ribosomal protein L36 955756 955634
NMB0942 50S ribosomal protein L31, putative 956031 955759
NMB0943 5,10-methylenetetrahydrofolate reductase 956231 957106
NMB0944 5-methyltetrahydropteroyltriglutamate-homocysteine
        methyltransferase 957247 959520
NMB0945 hypothetical protein 959535 959696
NMB0946 peroxiredoxin 2 family protein/glutaredoxin 959802 960536
NMB0947 lipoamide dehydrogenase, putative 960788 962188
NMB0948 succinate dehydrogenase, cytochrome b556 subunit 962470 962844
NMB0949 succinate dehydrogenase, hydrophobic membrane anchor protein
        962841 963179
NMB0950 succinate dehydrogenase, flavoprotein subunit 963185 964945
NMB0951 succinate dehydrogenase, iron-sulfur protein 965068 965772
NMB0952 conserved hypothetical protein 965779 966024
NMB0953 hypothetical protein 966024 966104
NMB0954 citrate synthase 966139 967419
NMB0955 2-oxoglutarate dehydrogenase, E1 component 967627 970452
NMB0956 2-oxoglutarate dehydrogenase, E2 component, dihydrolipoamide
        succinyltransferase 970555 971733
NMB0957 2-oxoglutarate dehydrogenase, E3 component, lipoamide
        dehydrogenase 972101 973531
NMB0958 hypothetical protein 973659 973943
NMB0959 succinyl-CoA synthetase, beta subunit 974045 975208
NMB0960 succinyl-CoA synthetase, alpha subunit 975222 976109
NMB0961 funZ protein 978267 976675
NMB0962 excinuclease ABC, subunit A 981150 978304
NMB0963 phosphatidylserine decarboxylase precursor-related protein 981305
        982099
NMB0964 TonB-dependent receptor 985503 983230
NMB0965 hypothetical protein 985832 985564
```

Appendix B   -17-

NMB0966 para-aminobenzoate synthase glutamine amidotransferase component
        II 985925 986512
NMB0967 anthranilate phosphoribosyltransferase 986579 987634
NMB0968 hypothetical protein 987644 987729
NMB0969 hypothetical protein 988030 987792
NMB0970 conserved hypothetical protein, FRAMESHIFT 988106 989527
NMB0971 hypothetical protein 989493 989780
NMB0972 hypothetical protein 989788 989982
NMB0973 hypothetical protein 989993 990274
NMB0974 hypothetical protein 990284 990559
NMB0975 hypothetical protein 990690 991004
NMB0976 TspB-related protein 990991 991383
NMB0977 modulator of drug activity B, putative 991676 992146
NMB0978 NAD(P) transhydrogenase, beta subunit 993742 992360
NMB0979 hypothetical protein 994205 993825
NMB0980 NAD(P) transhydrogenase, alpha subunit 995750 994212
NMB0981 phosphoserine phosphatase 996040 996870
NMB0982 chloride channel protein-related protein 997018 998157
NMB0983 phosphoribosylaminoimidazolecarboxamide formyltransferase/IMP
        cyclohydrolase 998324 999901
NMB0984 transposase, putative, degenerate 1000517 1001457
NMB0985 E16-related protein 1001522 1002016
NMB0986 hypothetical protein 1001997 1002425
NMB0987 N-acetylmuramoyl-L-alanine amidase, putative 1002736 1003278
NMB0988 hypothetical protein 1003278 1003478
NMB0989 hypothetical protein 1003484 1003645
NMB0990 hypothetical protein 1003859 1004260
NMB0991 IS1106 transposase 1005417 1004308
NMB0992 adhesin 1007326 1005554
NMB0993 rubredoxin 1009428 1009261
NMB0994 acyl-CoA dehydrogenase family protein 1011202 1010114
NMB0995 macrophage infectivity potentiator-related protein 1012020 1011340
NMB0996 hypothetical protein 1012411 1012043
NMB0997 D-lactate dehydrogenase 1014397 1012709
NMB0998 oxidoreductase, putative 1014921 1018751
NMB0999 NifR3/SMM1 family protein 1018935 1019933
NMB1000 IS1106 transposase, putative FRAMESHIFT 1020537 1021551
NMB1001 integrase protein, degenerate 1023183 1022614
NMB1002 hypothetical protein 1024370 1023498
NMB1003 hypothetical protein 1024711 1024418
NMB1004 hypothetical protein 1024962 1024720
NMB1005 hypothetical protein 1025179 1024958
NMB1006 hypothetical protein 1025360 1025184
NMB1007 transcriptional regulator 1025451 1025819
NMB1008 hypothetical protein 1025824 1026444
NMB1009 conserved hypothetical protein 1026440 1026631
NMB1010 hypothetical protein 1026658 1027218
NMB1011 hypothetical protein 1027252 1028196
NMB1012 hypothetical protein 1028284 1028784
NMB1013 hypothetical protein 1028801 1028971
NMB1014 conserved hypothetical protein 1029045 1029635
NMB1015 IS150 transposase, putative FRAMESHIFT 1029653 1030443
NMB1016 conserved hypothetical protein 1031794 1031192
NMB1017 sulfate ABC transporter, periplasmic sulfate-binding protein
        1033574 1032522
NMB1018 conserved hypothetical protein 1034162 1033683
NMB1019 phosphoribosylaminoimidazole carboxylase, ATPase subunit 1035345
        1034212
NMB1020 hypothetical protein 1035887 1035345
NMB1021 anthranilate synthase component I 1037359 1035887
NMB1022 transposase, IS30 family 1038444 1037482
NMB1023 conserved hypothetical protein 1039543 1038587
NMB1024 conserved hypothetical protein 1040502 1039639
NMB1025 conserved hypothetical protein 1040896 1040537

Appendix B   -18-

NMB1026 conserved hypothetical protein 1040971 1041447
NMB1027 dnaJ protein, truncation 1041473 1042192
NMB1028 conserved hypothetical protein 1042197 1043069
NMB1029 aspartate ammonia-lyase 1044541 1043147
NMB1030 conserved hypothetical protein 1045565 1045005
NMB1031 3-isopropylmalate dehydrogenase 1046798 1045731
NMB1032 type II restriction enzyme NlaIV 1047563 1046835
NMB1033 modification methylase NlaIV 1048850 1047582
NMB1034 3-isopropylmalate dehydratase, small subunit 1049666 1049028
NMB1035 hypothetical protein 1049982 1049731
NMB1036 3-isopropylmalate dehydratase, large subunit 1051488 1050082
NMB1037 glutamate--cysteine ligase 1051748 1053094
NMB1038 DNA repair protein RadC 1053220 1053894
NMB1039 conserved hypothetical protein 1053970 1054692
NMB1040 hypothetical protein 1054848 1056125
NMB1041 GTP-binding protein 1056133 1057308
NMB1042 cation transport ATPase, E1-E2 family 1057308 1059776
NMB1043 hypothetical protein 1059940 1060142
NMB1044 ferredoxin--NADP reductase 1061316 1060543
NMB1045 hypothetical protein 1062298 1061507
NMB1046 threonine synthase 1063753 1062347
NMB1047 hypothetical protein 1064197 1063829
NMB1048 hypothetical protein 1065918 1064452
NMB1049 transcriptional regulator, putative 1066174 1067085
NMB1050 transposase, IS30 family 1068512 1067550
NMB1051 ABC transporter, ATP-binding protein 1070544 1068637
NMB1052 dedA protein 1071207 1070566
NMB1053 class 5 outer membrane protein 1072189 1071374
NMB1054 IS1106 transposase, degenerate 1073920 1072988
NMB1055 serine hydroxymethyltransferase 1075474 1074227
NMB1056 hypothetical protein 1075753 1075544
NMB1057 gamma-glutamyltranspeptidase 1077776 1075959
NMB1058 conserved hypothetical protein FRAMESHIFT 1078161 1077902
NMB1059 conserved hypothetical protein 1078505 1078720
NMB1060 fructose-1,6-bisphosphatase 1079840 1078869
NMB1061 conserved hypothetical protein 1080931 1080089
NMB1062 conserved hypothetical protein 1081610 1081011
NMB1063 dihydroneopterin aldolase 1081666 1082019
NMB1064 conserved hypothetical protein 1082056 1082589
NMB1065 crcB protein 1083465 1083109
NMB1066 hypothetical protein 1084174 1083497
NMB1067 cell division protein FtsK 1084339 1087380
NMB1068 gamma-glutamyl phosphate reductase 1088870 1087611
NMB1069 glutamate 5-kinase 1089992 1088886
NMB1070 2-isopropylmalate synthase 1090477 1092027
NMB1071 conserved hypothetical protein 1092125 1092784
NMB1072 prolipoprotein diacylglyceryl transferase 1093721 1092873
NMB1073 conserved hypothetical protein 1094922 1093795
NMB1074 acetylglutamate kinase 1095092 1095985
NMB1075 conserved hypothetical protein 1098302 1097637
NMB1076 DnaA-related protein 1098967 1098302
NMB1077 ABC transporter, ATP-binding protein, truncation 1099623 1099075
NMB1078 transcriptional regulator, UmuD/LexA family 1100312 1099875
NMB1079 hypothetical protein 1100580 1100425
NMB1080 ner protein FRAMESHIFT 1100802 1101061
NMB1081 bacteriophage transposase 1101126 1103108
NMB1082 hypothetical protein 1103120 1103317
NMB1083 bacteriophage DNA transposition protein B, putative 1103481
        1104650
NMB1084 hypothetical protein 1104655 1105173
NMB1085 N-acetylmuramoyl-L-alanine amidase, putative 1105319 1105861
NMB1086 hypothetical protein 1106234 1106467
NMB1087 hypothetical protein 1106758 1107060
NMB1088 conserved hypothetical protein 1107278 1107111

Appendix B   -19-

```
NMB1089 hypothetical protein 1107506 1107841
NMB1090 hypothetical protein 1107856 1108119
NMB1091 hypothetical protein 1108119 1108313
NMB1092 hypothetical protein 1108319 1108822
NMB1093 hypothetical protein 1109412 1108825
NMB1094 hypothetical protein 1109497 1111044
NMB1095 conserved hypothetical protein 1111047 1112612
NMB1096 conserved hypothetical protein 1112602 1113894
NMB1097 cryptic Mu-phage G protein, putative 1114007 1114419
NMB1098 I protein, putative 1114653 1115711
NMB1099 transposase, IS30 family 1116767 1115805
NMB1100 hypothetical protein 1116795 1117274
NMB1101 conserved hypothetical protein 1117277 1117696
NMB1102 hypothetical protein 1117746 1118336
NMB1103 hypothetical protein 1118336 1118530
NMB1104 phage sheath protein 1118536 1119942
NMB1105 hypothetical protein 1120010 1120384
NMB1106 hypothetical protein 1120391 1120753
NMB1107 hypothetical protein 1121610 1121011
NMB1108 hypothetical protein 1121780 1123933
NMB1109 phage virion protein, putative 1123936 1125264
NMB1110 tail protein, 43 kDa 1125257 1126399
NMB1111 baseplate assembly protein V, putative 1126399 1127064
NMB1112 conserved hypothetical protein 1127168 1127512
NMB1113 conserved hypothetical protein FRAMESHIFT 1127529 1128580
NMB1114 conserved hypothetical protein 1128580 1129137
NMB1115 tail fibre protein, putative 1129151 1131121
NMB1116 hypothetical protein 1131560 1132084
NMB1117 hypothetical protein 1132350 1132204
NMB1118 conserved hypothetical protein 1132762 1132478
NMB1119 conserved hypothetical protein 1132842 1133444
NMB1120 hypothetical protein 1133426 1133719
NMB1121 conserved hypothetical protein 1133719 1133925
NMB1122 ABC transporter, ATP-binding protein FRAMESHIFT 1135181 1134041
NMB1198 conserved hypothetical protein 1199352 1198465
NMB1161 hypothetical protein 1167620 1167426
NMB1162 hypothetical protein 1168307 1167663
NMB1163 hypothetical protein 1168675 1168307
NMB1164 hypothetical protein 1169353 1168685
NMB1165 oxidoreductase, short chain dehydrogenase/reductase family 1170237
        1169521
NMB1128 conserved hypothetical protein 1139597 1138287
NMB1167 hypothetical protein 1171869 1171666
NMB1168 phytoene synthase, putative 1172903 1172034
NMB1131 chaperone protein HscA 1142897 1141038
NMB1132 hypothetical protein 1143630 1142977
NMB1171 conserved hypothetical protein / ankyrin-related protein 1176464
        1175706
NMB1172 ferredoxin, 2Fe-2S type 1176860 1176522
NMB1173 hypothetical protein 1177278 1177138
NMB1136 hypothetical protein 1146017 1145337
NMB1175 conserved hypothetical protein 1178247 1178053
NMB1176 conserved hypothetical protein 1178719 1178321
NMB1139 acetyl-CoA carboxylase, carboxyl transferase alpha subunit 1147851
        1146895
NMB1140 mesJ protein FRAMESHIFT 1149229 1147948
NMB1179 RNA methyltransferase, TrmH family 1182124 1181516
NMB1180 hypothetical protein 1182411 1182178
NMB1181 hypothetical protein 1182945 1182583
NMB1182 hypothetical protein 1183262 1182960
NMB1145 UDP-N-acetylmuramate:L-alanyl-gamma-D-glutamyl-meso-
        diaminopimelate ligase 1152664 1151291
NMB1146 biotin synthetase 1153923 1152874
NMB1185 hypothetical protein 1186675 1186043
```

Appendix B   -20-

NMB1148 hypothetical protein 1154845 1154693
NMB1187 hypothetical protein 1187052 1186912
NMB1150 dihydroxy-acid dehydratase 1157144 1155288
NMB1189 sulfite reductase hemoprotein, beta-component 1191122 1189356
NMB1190 sulfite reductase (NADPH) flavoprotein, alpha component 1192963
        1191152
NMB1153 sulfate adenylyltransferase, subunit 1 1162210 1160927, plasmid
        protein ▆▆▆▆
NMB1192 sulfate adenylyltransferase, subunit 2 1195208 1194288
NMB1155 phosphoadenosine phosphosulfate reductase 1163950 1163213
NMB1194 siroheme synthase 1197448 1196000
NMB1195 hypothetical protein 1197732 1197577
NMB1158 nickel-dependent hydrogenase, b-type cytochrome subunit 1166365
        1165712
NMB1197 conserved hypothetical protein 1199352 1198465
NMB1199 GTP-binding protein TypA 1201433 1199625
NMB1200 ribonuclease II family protein 1202272 1204644
NMB1201 IMP dehydrogenase 1206449 1204989
NMB1202 hypothetical protein 1207237 1206779
NMB1203 protein-PII uridylyltransferase 1209886 1207331
NMB1204 transcriptional regulator 1210255 1209938
NMB1205 hypothetical protein 1210426 1210283
NMB1206 bacterioferritin B 1211053 1210583
NMB1207 bacterioferritin A 1211545 1211084
NMB1208 hypothetical protein 1211610 1211810
NMB1209 hypothetical protein 1211900 1212100
NMB1210 toxin-activating protein, putative 1212121 1212585
NMB1211 hypothetical protein 1212984 1212745
NMB1212 hypothetical protein 1213319 1212984
NMB1213 hypothetical protein 1213678 1213319
NMB1214 hemagglutinin/hemolysin-related protein 1220496 1213678
NMB1215 hypothetical protein 1220814 1220659
NMB1216 lipoic acid synthetase 1221989 1221009
NMB1217 lipoate-protein ligase B 1222554 1221985
NMB1218 conserved hypothetical protein 1222882 1222610
NMB1219 transporter, putative 1223067 1224134
NMB1220 stomatin/Mec-2 family protein 1225281 1224337
NMB1221 hypothetical protein 1225703 1225299
NMB1222 uracil-DNA glycosylase 1225784 1226440
NMB1223 site-specific DNA methylase, degenerate 1226520 1229028
NMB1224 hypothetical protein 1229552 1229154
NMB1225 hypothetical protein 1230112 1229600
NMB1226 ABC transporter, ATP-binding protein 1232500 1230581
NMB1227 conserved hypothetical protein 1232972 1232580
NMB1228 homoserine dehydrogenase 1233145 1234449
NMB1229 hypothetical protein 1234445 1234876
NMB1230 DNA-binding protein HU-beta 1235207 1234941
NMB1231 ATP-dependent protease La 1237851 1235392
NMB1232 conserved hypothetical protein 1238285 1239202
NMB1233 exodeoxyribonuclease V, alpha subunit 1240978 1239236
NMB1234 ABC transporter, ATP-binding protein 1241741 1241049
NMB1235 conserved hypothetical protein 1242981 1241737
NMB1236 hypothetical protein 1243186 1243461
NMB1237 recombination protein RecR 1244140 1243523
NMB1238 peptidyl-prolyl cis-trans isomerase-related protein 1245742
        1244207
NMB1239 conserved hypothetical protein 1246176 1245805
NMB1240 ABC transporter, ATP-binding protein 1246326 1247951
NMB1241 tRNA nucleotidyltransferase 1248026 1249276
NMB1242 hypothetical protein 1249502 1249807
NMB1243 Holliday junction DNA helicase RuvB 1249892 1250920
NMB1244 ribulose-phosphate 3-epimerase 1251674 1250949
NMB1245 hypothetical protein 1252367 1252035
NMB1246 conserved hypothetical protein 1253294 1252434

Appendix B -21-

NMB1247 riboflavin synthase, alpha subunit 1254006 1253305
NMB1248 molybdopterin-guanine dinucleotide biosynthesis protein A
         FRAMESHIFT 1254659 1254085
NMB1249 nitrate/nitrite sensory protein NarX, putative 1254901 1256670
NMB1250 transcriptional regulator, LuxR family 1256670 1257323
NMB1251 transposase, IS30 family 1258731 1257769
NMB1252 phosphoribosylformylglycinamidine cyclo-ligase 1259914 1258883
NMB1253 hypothetical protein 1260672 1261346
NMB1254 GTP cyclohydrolase II 1261342 1261932
NMB1255 glycosyl transferase, degenerate 1262256 1263263
NMB1256 GTP cyclohydrolase II/3,4-dihydroxy-2-butanone-4-phosphate
         synthase 1263728 1264816
NMB1257 site-specific DNA methylase, degenerate 1265357 1265130
NMB1258 conserved hypothetical protein 1267046 1265739
NMB1259 transposase, IS30 family 1267584 1268546
NMB1260 type III restriction-modification system EcoPI enzyme, subunit res
         1271565 1268629
NMB1261 type III restriction-modification system EcoPI enzyme, subunit mod
         POINT MUTATION FRAMESHIFT 1273661 1271581
NMB1262 peptidyl-prolyl cis-trans isomerase 1274334 1273780
NMB1263 CobW-related protein 1275316 1274402
NMB1264 conserved hypothetical protein 1275771 1275502
NMB1265 conserved hypothetical protein 1276061 1275771
NMB1266 zinc uptake regulation protein, putative 1276582 1276109
NMB1267 low molecular weight protein tyrosine-phosphatase 1277108 1276656
NMB1268 conserved hypothetical protein 1278348 1277236
NMB1269 hypothetical protein 1279559 1278465
NMB1270 conserved hypothetical protein 1281272 1279644
NMB1271 mercury transport periplasmic protein, putative 1281584 1281375
NMB1272 hypothetical protein 1281765 1281625
NMB1273 alginate O-acetylation protein AlgI, putative 1282215 1283648
NMB1274 hypothetical protein 1283662 1284642
NMB1275 hypothetical protein 1284642 1286083
NMB1276 long-chain-fatty-acid--CoA ligase 1286122 1287672
NMB1277 transporter, BCCT family 1289792 1287768
NMB1278 site-specific recombinase 1290081 1292084
NMB1279 membrane-bound lytic murein transglycosylase B, putative 1293319
         1292213
NMB1280 very long chain acyl-CoA dehydrogenase-related protein 1294948
         1293524
NMB1281 transcription-repair coupling factor 1295133 1299269
NMB1282 aspartate 1-decarboxylase 1299421 1299801
NMB1283 2-dehydro-3-deoxyphosphooctonate aldolase 1299826 1300665
NMB1284 hypothetical protein 1300683 1301120
NMB1285 enolase 1301171 1302454
NMB1286 conserved hypothetical protein 1302471 1302746
NMB1287 ferredoxin, putative 1303080 1302793
NMB1288 ribonucleoside-diphosphate reductase, beta subunit 1304479 1303328
NMB1289 type II restriction enzyme, putative 1305706 1304522
NMB1290 C-5 cytosine-specific DNA-methylase 1306712 1305702
NMB1291 ribonucleoside-diphosphate reductase, alpha subunit 1309049
         1306773
NMB1292 hypothetical protein 1309394 1309209
NMB1293 hypothetical protein 1309563 1309886
NMB1294 1-acyl-sn-glycerol-3-phosphate acyltransferase 1310967 1310203
NMB1295 formamidopyrimidine-DNA glycosylase 1311882 1311058
NMB1296 hypothetical protein 1312599 1311937
NMB1297 membrane-bound lytic murein transglycosylase D 1312778 1314751
NMB1298 ribosomal small subunit pseudouridine synthase A 1314822 1315511
NMB1299 sodium- and chloride-dependent transporter, degenerate 1316091
         1317454
NMB1300 cytidylate kinase 1317701 1318354
NMB1301 30S ribosomal protein S1 1318513 1320195
NMB1302 integration host factor, beta subunit 1320209 1320520

Appendix B   -22-

```
NMB1303 transcriptional regulator, MerR family 1321281 1320877
NMB1304 alcohol dehydrogenase, class III 1321402 1322535
NMB1305 esterase, putative 1322547 1323371
NMB1306 conserved hypothetical protein 1323765 1324913
NMB1307 nucleoside diphosphate kinase 1324975 1325397
NMB1308 conserved hypothetical protein 1325543 1326634
NMB1309 fimbrial biogenesis and twitching motility protein, putative,
        1326640 1327398
NMB1310 gcpE protein 1327417 1328679
NMB1311 hypothetical protein 1328970 1328737
NMB1312 ATP-dependent Clp protease, proteolytic subunit 1329655 1329128
NMB1313 trigger factor 1331148 1329838
NMB1314 cell division protein FtsK 1333791 1331356
NMB1315 uracil permease 1334014 1335222
NMB1316 hypothetical protein 1335289 1335726
NMB1317 hypothetical protein 1335865 1336266
NMB1318 CDP-diacylglycerol--serine O-phosphatidyltransferse 1336343
        1337086
NMB1319 conserved hypothetical protein 1337090 1337860
NMB1320 50S ribosomal protein L9 1338540 1338091
NMB1321 30S ribosomal protein S18 1338787 1338560
NMB1322 primosomal replication protein n, putative 1339096 1338797
NMB1323 30S ribosomal protein S6 1339465 1339100
NMB1324 thioredoxin reductase 1340571 1339624
NMB1325 cation transport ATPase, E1-E2 family 1340710 1342869
NMB1326 excinuclease ABC, subunit C 1342969 1344819
NMB1327 conserved hypothetical protein 1345045 1346445
NMB1328 conserved hypothetical protein 1346570 1347283
NMB1329 hypothetical protein 1347649 1347840
NMB1330 hypothetical protein 1348276 1347917
NMB1331 excinuclease ABC, subunit B 1350416 1348392
NMB1332 carboxy-terminal peptidase 1352229 1350748
NMB1333 conserved hypothetical protein 1354146 1352359
NMB1334 hypothetical protein 1354238 1354471
NMB1335 creA protein 1354474 1355031
NMB1336 conserved hypothetical protein 1355036 1355581
NMB1337 conserved hypothetical protein 1355577 1356029
NMB1338 isomerase, putative 1356698 1356045
NMB1339 prolyl-tRNA synthetase_ 1358473 1356764
NMB1340 hypothetical protein 1358924 1359151
NMB1341 pyruvate dehydrogenase, E1 component 1359167 1361827
NMB1342 pyruvate dehydrogenase, E2 component, dihydrolipoamide
        acetyltransferase FRAMESHIFT 1361979 1363583
NMB1343 hypothetical protein 1363680 1364114
NMB1344 pyruvate dehydrogenase, E3 component, lipoamide dehydrogenase
        1364135 1365916
NMB1345 hypothetical protein 1367830 1366283
NMB1346 TonB-dependent receptor, putative FRAMESHIFT 1369731 1367957
NMB1347 extragenic suppressor protein SuhB 1370786 1370004
NMB1348 RNA methylase, putative 1371030 1371842
NMB1349 hypothetical protein 1371906 1372760
NMB1350 hypothetical protein 1372967 1373305
NMB1351 fmu and fmv protein, putative 1373656 1374909
NMB1352 hypothetical protein 1375272 1375703
NMB1353 aldehyde dehydrogenase family protein 1377097 1375757
NMB1354 conserved hypothetical protein 1377755 1377105
NMB1355 glutamyl-tRNA (Gln) amidotransferase subunit C, putative 1377906
        1378193
NMB1356 Glu-tRNA(Gln) amidotransferase, subunit A 1378259 1379701
NMB1357 conserved hypothetical protein 1379701 1380630
NMB1358 Glu-tRNA(Gln) amidotransferase, subunit B 1380676 1382103
NMB1359 CDP-6-deoxy-delta-3,4-glucoseen reductase, putative 1382318
        1383325
NMB1360 pyridoxamine 5-phosphate oxidase 1384090 1383461
```

Appendix B   -23-

NMB1361 conserved hypothetical protein 1384312 1385361
NMB1362 oxalate/formate antiporter, putative 1386974 1385436
NMB1363 exodeoxyribonuclease, large subunit 1388622 1387270
NMB1364 NH(3)-dependent NAD+ synthetase NadE, putative 1388819 1389637
NMB1365 conserved hypothetical protein 1390183 1389713
NMB1366 thioredoxin 1390481 1390810
NMB1367 conserved hypothetical protein 1391930 1390869
NMB1368 ATP-dependent RNA helicase, putative 1392141 1393526
NMB1369 hypothetical protein 1394572 1394021
NMB1370 hypothetical protein 1395217 1394860
NMB1371 acetylornithine aminotransferase 1395561 1396754
NMB1372 ATP-dependent Clp protease, ATP-binding subunit ClpX 1398104
      1396863
NMB1373 ribosome-binding factor A 1398295 1398663
NMB1374 tRNA pseudouridine synthase B 1398699 1399619
NMB1375 modification methylase, putative FRAMESHIFT 1399839 1401945
NMB1376 conserved hypothetical protein POINT MUTATION 1401938 1404712
NMB1377 L-lactate dehydrogenase 1406036 1404867
NMB1378 conserved hypothetical protein 1406327 1406770
NMB1379 nifS protein 1406802 1408013
NMB1380 nifU protein 1408280 1408663
NMB1381 HesB/YadR/YfhF family protein 1408693 1409070
NMB1382 conserved hypothetical protein 1409254 1409036
NMB1383 chaperone protein HscB 1409336 1409833
NMB1384 DNA gyrase subunit A 1409934 1412681
NMB1385 IS1016 family transposase, degenerate 1412841 1413241
NMB1386 transposase, putative FRAMESHIFT 1413303 1413955
NMB1387 hypothetical protein 1414840 1414292
NMB1388 glucose-6-phosphate isomerase 1416500 1414857
NMB1389 RpiR/YebK/YfhH family protein 1417469 1416624
NMB1390 glucokinase 1418505 1417522
NMB1391 oxidoreductase, Sol/DevB family 1419181 1418489
NMB1392 glucose-6-phosphate 1-dehydrogenase 1420906 1419464
NMB1393 phosphogluconate dehydratase 1421474 1423306
NMB1394 4-hydroxy-2-oxoglutarate aldolase/2-deydro-3-deoxyphosphogluconate
      aldolase 1423490 1424125
NMB1395 alcohol dehydrogenase, zinc-containing 1425427 1424390
NMB1396 A/G-specific adenine glycosylase 1425581 1426627
NMB1397 hypothetical protein 1426793 1426972
NMB1398 Cu-Zn-superoxide dismutase 1427047 1427604
NMB1399 IS1106 transposase 1429146 1428175
NMB1400 ABC transporter family protein 1431631 1429406
NMB1401 IS1016C2 transposase 1432983 1432447
NMB1402 hypothetical protein 1433320 1433751
NMB1403 FrpA/C-related protein 1433795 1433983
NMB1404 hypothetical protein 1434021 1434746
NMB1405 FrpA/C-related protein 1434763 1435962
NMB1406 hypothetical protein 1436396 1436755
NMB1407 FrpA-related protein, degenerate 1436755 1437881
NMB1408 hypothetical protein 1437960 1438451
NMB1409 FrpA/C-related protein 1438582 1439007
NMB1410 hypothetical protein 1439247 1439783
NMB1411 IS1016C2 transposase 1440610 1439960
NMB1412 FrpC operon protein 1441216 1442022
NMB1413 IS1016 family transposase, putative FRAMESHIFT 1442715 1442132
NMB1414 FrpC operon protein 1442798 1443568
NMB1415 iron-regulated protein FrpC 1443588 1449074
NMB1416 aminopeptidase N 1452022 1449422
NMB1417 conserved hypothetical protein 1452947 1452156
NMB1418 HtrB/MsbB family protein 1454563 1453697
NMB1419 crossover junction endodeoxyribonuclease RuvC 1455150 1454617
NMB1420 factor-for-inversion stimulation protein Fis, putative 1455392
      1455156
NMB1421 nifR3 protein 1456432 1455425

Appendix B   -24-

```
NMB1422  ATP-dependent RNA helicase, putative 1456798 1458168
NMB1423  conserved hypothetical protein 1458746 1459870
NMB1424  hypothetical protein 1459903 1460928
NMB1425  lysyl-tRNA synthetase, heat inducible 1462560 1461052
NMB1426  hypothetical protein 1463968 1462718
NMB1427  hypothetical protein 1464208 1464032
NMB1428  aminopeptidase, putative 1464426 1466219
NMB1429  outer membrane protein PorA 1468209 1467034
NMB1430  transcription elongation factor GreA 1470964 1470491
NMB1431  hypothetical protein 1471298 1471050
NMB1432  3-phosphoshikimate 1-carboxyvinyltransferase 1471360 1472658
NMB1433  conserved hypothetical protein FRAMESHIFT 1473237 1472707
NMB1434  cardiolipin synthetase family protein 1474971 1473448
NMB1435  drug resistance translocase family protein 1476489 1475086
NMB1436  conserved hypothetical protein 1476774 1477550
NMB1437  conserved hypothetical protein 1477550 1478248
NMB1438  conserved hypothetical protein 1478248 1479699
NMB1439  phosphoribosylaminoimidazole carboxylase, catalytic subunit
           1480370 1479888
NMB1440  hypothetical protein 1481131 1480421
NMB1441  O-methyltransferase, putative 1481799 1481134
NMB1442  mismatch repair protein MutL 1482139 1484112
NMB1443  DNA polymerase III, subunits gamma and tau 1484210 1486321
NMB1444  conserved hypothetical protein 1486404 1486736
NMB1445  recA protein 1489556 1488513
NMB1446  3-dehydroquinate dehydratase 1489810 1490571
NMB1447  ATP-dependent DNA helicase Rep 1490594 1492606
NMB1448  DNA-damage-inducible protein P 1493734 1492781
NMB1449  TonB-dependent receptor POINT MUTATION 1496967 1493881
NMB1450  ferredoxin--NADP reductase 1497241 1498017
NMB1451  DNA polymerase III, epsilon subunit 1499643 1498234
NMB1452  conserved hypothetical protein 1500459 1501595
NMB1453  hypothetical protein 1502335 1501847
NMB1454  ferredoxin, 4Fe-4S bacterial type 1503891 1502398
NMB1455  hypothetical protein 1504075 1503959
NMB1456  hypothetical protein 1504347 1504153
NMB1457  transketolase 1504419 1506395
NMB1458  fumarate hydratase, class II 1506547 1507932
NMB1459  conserved hypothetical protein 1508923 1508003
NMB1460  single-strand binding protein 1509972 1509451
NMB1461  drug resistance translocase family protein 1511361 1509979
NMB1462  transglycosylase, putative 1512092 1511472
NMB1463  IS1106 transposase, degenerate 1512998 1512596
NMB1464  conserved hypothetical protein 1513541 1513053
NMB1465  opacity protein FRAMESHIFT 1515309 1514483
NMB1466  conserved hypothetical protein 1515639 1516367
NMB1467  exopolyphosphatase 1516487 1517992
NMB1468  hypothetical protein 1518527 1518207
NMB1469  hypothetical protein 1518607 1518527
NMB1470  hypothetical protein 1519392 1518850
NMB1471  tryptophanyl-tRNA synthetase 1520471 1519464
NMB1472  clpB protein 1520732 1523308
NMB1473  aminotransferase, class I 1524612 1523401
NMB1474  4-oxalocrotonate tautomerase, putative 1524910 1524704
NMB1475  conserved hypothetical protein 1525255 1526058
NMB1476  glutamate dehydrogenase, NAD-specific 1527384 1526122
NMB1477  hypothetical protein 1527562 1527396
NMB1478  phosphoglycolate phosphatase FRAMESHIFT 1527786 1528489
NMB1479  regulatory protein RecX 1528560 1529018
NMB1480  hypothetical protein 1529095 1529253
NMB1481  hypothetical protein 1529262 1529393
NMB1482  acyl CoA thioester hydrolase family protein 1529409 1529888
NMB1483  lipoprotein NlpD, putative 1531499 1530255
NMB1484  stationary-phase survival protein SurE 1532501 1531758
```

Appendix B   -25-

```
NMB1485 conserved hypothetical protein 1534074 1532521
NMB1486 hypothetical protein 1534263 1534126
NMB1487 fimbrial assembly protein 1535230 1534445
NMB1488 succinate-semialdehyde dehydrogenase (NADP+) 1536772 1535342
NMB1489 hypothetical protein 1537259 1537750
NMB1490 hypothetical protein 1538345 1537917
NMB1491 hypothetical protein 1538785 1538699
NMB1492 hypothetical protein 1538860 1538795
NMB1493 carbon starvation protein A 1538892 1540970
NMB1494 conserved hypothetical protein 1540963 1541154
NMB1495 hypothetical protein 1541371 1541562
NMB1496 conserved hypothetical protein 1541673 1542230
NMB1497 TonB-dependent receptor 1543234 1545996
NMB1498 aspartokinase, alpha and beta subunits 1549220 1548006
NMB1499 ribonuclease PH 1550148 1549423
NMB1500 conserved hypothetical protein 1550694 1550233
NMB1501 HesA/MoeB/ThiF family protein 1550911 1551684
NMB1502 hypothetical protein 1551825 1552349
NMB1503 hypothetical protein 1552608 1552814
NMB1504 conserved hypothetical protein 1552706 1553557
NMB1505 nicotinate phosphoribosyltransferase 1553601 1554806
NMB1506 arginyl-tRNA synthetase 1554901 1556616
NMB1507 hypothetical protein 1556714 1557070
NMB1508 hypothetical protein 1557130 1558584
NMB1509 amino acid ABC transporter, permease protein 1560344 1559601
NMB1510 thermonuclease family protein 1561224 1560526
NMB1511 ribose 5-phosphate isomerase A 1561934 1561266
NMB1512 YgbB/YacN family protein 1562493 1562014
NMB1513 conserved hypothetical protein 1563214 1562528
NMB1514 DNA polymerase III, epsilon subunit 1563945 1563214
NMB1515 transporter, putative 1565411 1564104
NMB1516 fixS protein 1565589 1565404
NMB1517 hypothetical protein 1565885 1565589
NMB1518 acetate kinase 1566236 1567429
NMB1519 thiol:disulfide interchange protein DsbD 1569752 1567950
NMB1520 hypothetical protein 1570337 1569819
NMB1521 phytoene synthase-related protein 1571249 1570425
NMB1522 FKBP-type peptidyl-prolyl cis-trans isomerase SlyD 1571803 1571324
NMB1523 hypothetical protein 1572276 1572569
NMB1524 oxidoreductase, putative 1572682 1574046
NMB1525 VirG-related protein FRAMESHIFT 1576262 1574233
NMB1526 small major protein B 1577081 1576638
NMB1527 ADP-heptose--LPS heptosyltransferase II 1578146 1577139
NMB1528 methylated-DNA--protein-cysteine methyltransferase, putative
        1579353 1578547
NMB1529 conserved hypothetical protein FRAMESHIFT 1579597 1580409
NMB1530 succinyl-diaminopimelate desuccinylase 1582228 1581086
NMB1531 conserved hypothetical protein 1582961 1582344
NMB1532 conserved hypothetical protein 1583504 1582998
NMB1533 H.8 outer membrane protein 1584150 1583602
NMB1534 hypothetical protein 1584287 1584150
NMB1535 hypothetical protein 1584404 1584874
NMB1536 preprotein translocase SecA subunit 1584984 1587731
NMB1537 DNA primase 1587879 1589648
NMB1538 RNA polymerase sigma factor RpoD 1589838 1591763
NMB1539 IS1106 transposase 1591913 1592917
NMB1540 lactoferrin-binding protein A 1597271 1594443
NMB1541 lactoferrin-binding protein B 1599481 1597271
NMB1542 hypothetical protein 1600504 1600722
NMB1543 conserved hypothetical protein 1600871 1602082
NMB1544 hypothetical protein 1602097 1602405
NMB1545 hypothetical protein 1602412 1602609
NMB1546 hypothetical protein 1602795 1603076
NMB1547 hypothetical protein 1603107 1603406
```

```
NMB1548 tspB protein, putative 1603741 1605384
NMB1549 hypothetical protein 1606176 1606325
NMB1550 conserved hypothetical protein 1606332 1606613
NMB1551 conserved hypothetical protein 1606617 1607717
NMB1552 pilin gene inverting protein PivNM-1A 1608019 1608972
NMB1553 transposase, truncation 1612022 1611708
NMB1554 CTP synthase 1613884 1612253
NMB1555 long-chain-fatty-acid--CoA ligase 1615666 1613999
NMB1556 tRNA (5-methylaminomethyl-2-thiouridylate) -methyltransferase
        1616840 1615740
NMB1557 conserved hypothetical protein 1617439 1616969
NMB1558 diacylglycerol kinase 1618115 1617735
NMB1559 glutathione synthetase 1619386 1618430
NMB1560 glutaminyl-tRNA synthetase 1621164 1619479
NMB1561 transcriptional regulator, DeoR family 1622049 1621279
NMB1562 conserved hypothetical protein 1622994 1622095
NMB1563 transcriptional regulator, GntR family 1623859 1623146
NMB1564 conserved hypothetical protein 1624850 1624431
NMB1565 hypothetical protein 1625639 1624971
NMB1566 phosphoribosylglycinamide formyltransferase 1626281 1625658
NMB1567 macrophage infectivity potentiator 1627206 1626391
NMB1568 DNA polymerase holoenzyme chi subunit, putative 1627905 1627468
NMB1569 aminopeptidase A/I, FRAMESHIFT 1629499 1627971
NMB1570 conserved hypothetical protein 1629544 1630656
NMB1571 conserved hypothetical protein 1630656 1631723
NMB1572 aconitate hydratase 2 1631936 1634518
NMB1573 ornithine carbamoyltransferase, catabolic 1634663 1635655
NMB1574 ketol-acid reductoisomerase 1636895 1635885
NMB1575 conserved hypothetical protein 1637268 1636978
NMB1576 acetolactate synthase III, small subunit 1637826 1637338
NMB1577 acetolactate synthase III, large subunit 1639564 1637840
NMB1578 conserved hypothetical protein 1640685 1641335
NMB1579 ATP phosphoribosyltransferase 1641417 1642067
NMB1580 hypothetical protein 1642174 1643070
NMB1581 histidinol dehydrogenase 1643070 1644356
NMB1582 histidinol-phosphate aminotransferase 1644405 1645499
NMB1583 imidazoleglycerol-phosphate dehydratase 1645499 1646413
NMB1584 3-hydroxyacid dehydrogenase 1646511 1647377
NMB1585 transcriptional regulator, MarR family 1647658 1648086
NMB1586 hypothetical protein 1648100 1648963
NMB1587 protease, putative 1650120 1649020
NMB1588 CDP-diacylglycerol--glycerol-3-phosphate 3-phosphatidyltransferase
        1651479 1650919
NMB1589 hypothetical protein 1652036 1651797
NMB1590 conserved hypothetical protein 1652675 1652343
NMB1591 transcriptional regulator MtrA 1652804 1653706
NMB1592 hypothetical protein 1653729 1654313
NMB1593 conserved hypothetical protein 1654445 1655305
NMB1594 spermidine/putrescine ABC transporter, periplasmic
        spermidine/putrescine-binding protein 1656479 1655352
NMB1595 alanyl-tRNA synthetase 1656684 1659305
NMB1596 hypothetical protein 1659348 1659551
NMB1597 hypothetical protein 1659569 1659997
NMB1598 hypothetical protein 1660094 1660282
NMB1599 hypothetical protein 1660300 1660584
NMB1600 hypothetical protein 1660624 1660878
NMB1601 IS1106 transposase 1661075 1662079
NMB1602 transposase, putative 1663112 1661997
NMB1603 tellurite resistance protein, putative 1663289 1664230
NMB1604 phosphoglycerate mutase 1664989 1664309
NMB1605 topoisomerase IV subunit A 1665137 1667437
NMB1606 sensor histidine kinase 1667460 1669033
NMB1607 sigma-54 dependent response regulator 1669029 1669493
NMB1608 conserved hypothetical protein 1669600 1670349
```

Appendix B   -27-

NMB1609 trans-sulfuration enzyme family protein 1672860 1671694
NMB1610 hypothetical protein 1673766 1673008
NMB1611 hypothetical protein 1673866 1674114
NMB1612 amino acid ABC transporter, periplasmic amino acid-binding protein
        1674169 1674972
NMB1613 fumarate hydratase, class I 1675282 1676802
NMB1614 Trk system potassium uptake protein TrkA 1676903 1678312
NMB1615 hypothetical protein 1678758 1679018
NMB1616 phosphomethylpyrimidine kinase 1679755 1680558
NMB1617 tellurite resistance protein, putative 1681480 1680614
NMB1618 ribonuclease HI 1681594 1682028
NMB1619 conserved hypothetical protein 1682889 1683290
NMB1620 conserved hypothetical protein 1683333 1684514
NMB1621 glutathione peroxidase 1685113 1684583
NMB1622 nitric oxide reductase 1687547 1685295
NMB1623 major anaerobically induced outer membrane protein 1687918 1689087
NMB1624 conserved hypothetical protein 1689215 1689967
NMB1625 pilin gene inverting protein PivNM-1B 1691651 1690698
NMB1626 conserved hypothetical protein 1693053 1691953
NMB1627 conserved hypothetical protein 1693338 1693057
NMB1628 tspB protein, putative 1695347 1693797
NMB1629 Hypothetical protein 1695690 1695328
NMB1630 hypothetical protein 1696057 1695758
NMB1631 hypothetical protein 1696449 1696088
NMB1632 hypothetical protein 1696752 1696555
NMB1633 hypothetical protein 1697067 1696759
NMB1634 conserved hypothetical protein 1698296 1697091
NMB1635 hypothetical protein 1698662 1698444
NMB1636 opacity protein FRAMESHIFT 1700231 1701047
NMB1637 conserved hypothetical protein 1701808 1701254
NMB1638 YhbX/YhjW/YijP/YjdB family protein 1703518 1701887
NMB1639 hypothetical protein 1703921 1703595
NMB1640 phosphoserine aminotransferase 1705027 1703924
NMB1641 conserved hypothetical protein 1705374 1705820
NMB1642 N utilization substance protein A 1705851 1707350
NMB1643 translation initiation factor IF-2 1707365 1710250
NMB1644 hypothetical protein 1711755 1710418
NMB1645 hypothetical protein 1713169 1711832
NMB1646 hemolysin, putative 1713312 1713935
NMB1647 amino acid symporter, putative 1715420 1714005
NMB1648 conserved hypothetical protein 1715747 1716472
NMB1649 disulfide bond formation protein B 1717022 1716537
NMB1650 leucine-responsive regulatory protein 1718177 1717716
NMB1651 alanine racemase 1718502 1719557
NMB1652 conserved hypothetical protein 1720979 1719627
NMB1653 conserved hypothetical protein 1721266 1720997
NMB1654 conserved hypothetical protein 1722129 1721395
NMB1655 adenine specific methylase, putative 1723321 1722413
NMB1656 hypothetical protein 1723454 1724044
NMB1657 comE operon protein 1-related protein 1725327 1724713
NMB1658 DNA/pantothenate metabolism flavoprotein 1731065 1732246
NMB1659 guanosine-3`,5`-bis(diphosphate) 3`-pyrophosphohydrolase 1734472
        1732319
NMB1660 DNA-directed RNA polymerase, omega subunit 1734770 1734567
NMB1661 guanylate kinase 1735446 1734832
NMB1662 adenine phosphoribosyltransferase 1735607 1736170
NMB1663 conserved hypothetical protein 1737007 1736222
NMB1664 protease, putative 1737332 1738684
NMB1665 conserved hypothetical protein 1739253 1738870
NMB1666 hypothetical protein 1739498 1739253
NMB1667 hypothetical protein 1740061 1739858
NMB1668 hemoglobin receptor 1742596 1740224
NMB1669 iron-starvation protein PigA 1743420 1742794
NMB1670 PqiA family protein 1743706 1745214

Appendix B   -28-

NMB1671 pqiB protein 1745210 1746868
NMB1672 conserved hypothetical protein 1746871 1747386
NMB1673 DNA-3-methyladenine glycosylase I, putative 1747393 1747941
NMB1674 GDSL lipase family protein 1747934 1748572
NMB1675 hypothetical protein 1748797 1749102
NMB1676 glycine dehydrogenase (decarboxylating) 1749136 1751984
NMB1677 cytochrome c5 1753288 1752452
NMB1678 aromatic-amino-acid aminotransferase 1754906 1753716
NMB1679 tRNA (uracil-5-)-methyltransferase 1756015 1754930
NMB1680 chorismate synthase 1756162 1757259
NMB1681 hypothetical protein 1757354 1757776
NMB1682 topoisomerase IV subunit B 1759838 1757856
NMB1683 MutT/nudix family protein 1760429 1759908
NMB1684 seryl-tRNA synthetase 1760595 1761887
NMB1685 D-lactate dehydrogenase 1762966 1761971
NMB1686 peptide chain release factor 1 1764167 1763094
NMB1687 conserved hypothetical protein 1765042 1764275
NMB1688 L-asparaginase I 1766051 1765053
NMB1689 dedA protein, putative 1767007 1766327
NMB1690 phosphoglucomutase/phosphomannomutase family protein 1768532
        1767201
NMB1691 dihydropteroate synthase 1769519 1768665
NMB1692 chorismate mutase-related protein 1770552 1769662
NMB1693 hypothetical protein 1770643 1772754
NMB1694 conserved hypothetical protein 1774305 1772824
NMB1695 hypothetical protein 1774424 1775401
NMB1696 acyl carrier protein 1775800 1775558
NMB1697 acyl carrier protein, putative 1776072 1775815
NMB1698 acyltransferase, putative 1776827 1776072
NMB1699 hypothetical protein 1777185 1776823
NMB1700 hypothetical protein 1777345 1777707
NMB1701 hypothetical protein 1777763 1778260
NMB1702 3-oxoacyl-(acyl-carrier-protein) reductase 1778291 1779016
NMB1703 3-oxoacyl-(acyl-carrier-protein) synthase II 1779013 1780260
NMB1704 beta-1,4-glucosyltransferase 1780467 1781222
NMB1705 alpha-1,2-N-acetylglucosamine transferase 1781226 1782287
NMB1706 hypothetical protein 1782329 1782496
NMB1707 sodium- and chloride-dependent transporter 1782677 1784011
NMB1708 NosX-related protein 1784846 1784189
NMB1709 thymidylate synthase 1785648 1784857
NMB1710 glutamate dehydrogenase, NADP-specific 1786032 1787363
NMB1711 transcriptional regulator, GntR family 1788280 1787504
NMB1712 L-lactate permease-related protein 1788711 1789007
NMB1713 transposase, IS30 family 1790361 1789399
NMB1714 multidrug efflux pump channel protein 1791874 1790474
NMB1715 multiple transferable resistance system protein MtrD 1795132
        1791932
NMB1716 membrane fusion protein 1796382 1795147
NMB1717 trancscriptional regulator MtrR 1796785 1797414
NMB1718 hypothetical protein 1797953 1797699
NMB1719 efflux pump component MtrF 1798240 1799805
NMB1720 exodeoxyribonuclease V 125 kD polypeptide 1803085 1799879
NMB1721 conserved hypothetical protein 1804596 1803190
NMB1722 cytochrome C555 FRAMESHIFT 1804923 1804801
NMB1723 cytochrome c oxidase, subunit III 1806129 1805035
NMB1724 cytochrome c oxidase, subunit II 1806939 1806331
NMB1725 cytochrome c oxidase, subunit I 1808411 1806969
NMB1726 conserved hypothetical protein 1808726 1810471
NMB1727 conserved hypothetical protein 1810539 1810964
NMB1728 biopolymer transport protein ExbD 1812088 1811657
NMB1729 biopolymer transport protein ExbB 1812753 1812094
NMB1730 TonB protein 1813661 1812822
NMB1731 conserved hypothetical protein 1813916 1814551
NMB1732 transporter, putative 1815806 1815009

Appendix B   -29-

```
NMB1733 hypothetical protein 1816445 1815945
NMB1734 glutaredoxin 1817423 1816785
NMB1735 GTP pyrophosphokinase 1817566 1819776
NMB1736 transposase, putative FRAMESHIFT 1820048 1820856
NMB1737 secretion protein, putative 1822426 1821026
NMB1738 secretion protein, putative 1823922 1822498
NMB1739 hypothetical protein 1824158 1824508
NMB1740 hypothetical protein 1824635 1825042
NMB1741 conserved hypothetical protein FRAMESHIFT 1825116 1826455
NMB1742 hypothetical protein 1826503 1826790
NMB1743 hypothetical protein 1826798 1826992
NMB1744 hypothetical protein 1827003 1827284
NMB1745 hypothetical protein 1827294 1827569
NMB1746 hypothetical protein 1827700 1827987
NMB1747 tspB protein, putative 1828031 1829533
NMB1748 conserved hypothetical protein 1829537 1829824
NMB1749 conserved hypothetical protein 1829837 1830919
NMB1750 pilin gene inverting protein PivNM-2 1831548 1832495
NMB1751 transposase, degenerate 1833264 1832887
NMB1752 conserved hypothetical protein FRAMESHIFT 1833772 1833299
NMB1753 VapD-related protein 1834647 1835081
NMB1754 cryptic plasmid protein A-related protein 1835182 1835084
NMB1755 hypothetical protein 1835328 1835669
NMB1756 hypothetical protein 1835980 1836171
NMB1757 hypothetical protein 1836529 1836756
NMB1758 hypothetical protein 1837008 1837217
NMB1759 conserved hypothetical protein 1837403 1838764
NMB1760 conserved hypothetical protein 1839128 1839631
NMB1761 conserved hypothetical protein 1839797 1841047
NMB1762 hemolysin activation protein HecB, putative 1843162 1841378
NMB1763 toxin-activating protein, putative 1843675 1843220
NMB1764 hypothetical protein 1844155 1843844
NMB1765 hypothetical protein 1844466 1844170
NMB1766 hypothetical protein 1845460 1844450
NMB1767 hypothetical protein 1845945 1845532
NMB1768 hemagglutinin/hemolysin-related protein 1853493 1845952
NMB1769 IS1016 family transposase, putative truncation 1853631 1853822
NMB1770 transposase, IS30 family 1854072 1855034
NMB1771 hypothetical protein 1855539 1855108
NMB1772 hypothetical protein 1857374 1855539
NMB1773 hypothetical protein 1857783 1857412
NMB1774 hypothetical protein 1858438 1858064
NMB1775 hypothetical protein 1860252 1858450
NMB1776 hypothetical protein 1860353 1860252
NMB1777 hypothetical protein 1861364 1861122
NMB1778 hypothetical protein 1861489 1861388
NMB1779 hemagglutinin/hemolysin-related protein 1867499 1861515
NMB1780 hemolysin activation protein HecB, putative 1869350 1867611
NMB1781 hypothetical protein 1869919 1869752
NMB1782 hypothetical protein 1870236 1869937
NMB1783 secretion protein, putative FRAMESHIFT 1871826 1870605
NMB1784 hypothetical protein 1872240 1871890
NMB1785 hypothetical protein 1872472 1872236
NMB1786 hypothetical protein 1873623 1872472
NMB1787 N-acetyl-gamma-glutamyl-phosphate reductase 1874156 1875196
NMB1788 ATP-dependent DNA helicase RecG 1878304 1876265
NMB1789 protein-export protein SecB 1878833 1878393
NMB1790 glutaredoxin 3 1879111 1878857
NMB1791 cytoplasmic axial filament protein FRAMESHIFT 1879236 1880813
NMB1792 sensor histidine kinase 1881795 1880854
NMB1793 response regulator, putative FRAMESHIFT 1882272 1881854
NMB1794 citrate transporter 1883808 1882498
NMB1795 hypothetical protein 1884071 1883916
NMB1796 conserved hypothetical protein 1884950 1884381
```

Appendix B   -30-

```
NMB1797 penicillin-binding protein 3 1885109 1886515
NMB1798 IS1016 family transposase, putative FRAMESHIFT 1887236 1886597
NMB1799 S-adenosylmethionine synthetase 1888654 1887488
NMB1800 hypothetical protein 1888703 1888903
NMB1801 HtrB/MsbB family protein 1889000 1889893
NMB1802 O-sialoglycoprotein endopeptidase 1891004 1889943
NMB1803 cytochrome c-type biogenesis protein, putative 1892308 1891124
NMB1804 cytochrome c-type biogenesis protein, putative 1894316 1892304
NMB1805 cytochrome c4 1895153 1894533
NMB1806 conserved hypothetical protein 1895353 1895985
NMB1807 penicillin-binding protein 1 1898505 1896112
NMB1808 pilM protein 1898657 1899769
NMB1809 pilN protein FRAMESHIFT 1899775 1900371
NMB1810 pilO protein 1900375 1901019
NMB1811 pilP protein 1901040 1901582
NMB1812 pilQ protein FRAMESHIFT 1901604 1903908
NMB1813 shikimate kinase 1904813 1905322
NMB1814 3-dehydroquinate synthase 1905405 1906481
NMB1815 conserved hypothetical protein 1907451 1908290
NMB1816 conserved hypothetical protein 1908323 1908784
NMB1817 riboflavin-specific deaminase 1908819 1909925
NMB1818 lipopolysaccharide biosynthesis protein, putative 1910123 1911541
NMB1819 hypothetical protein 1911541 1911693
NMB1820 pilin glycosylation protein PglB 1911712 1912950
NMB1821 pilin glycosylation protein PglC 1913086 1914258
NMB1822 pilin glycosylation protein PglD 1914309 1916216
NMB1823 valine--pyruvate aminotransferase 1916275 1917564
NMB1824 conserved hypothetical protein 1918455 1917622
NMB1825 hypothetical protein 1919103 1918903
NMB1826 conserved hypothetical protein 1919452 1919084
NMB1827 DNA polymerase III, alpha subunit 1919852 1923283
NMB1828 conserved hypothetical protein 1924652 1923723
NMB1829 TonB-dependent receptor 1926848 1924725
NMB1830 phosphoglycolate phosphatase, putative 1926996 1927652
NMB1831 lytB protein 1928711 1927746
NMB1832 lipoprotein signal peptidase 1929267 1928743
NMB1833 isoleucyl-tRNA synthetase 1933332 1930546
NMB1834 riboflavin kinase/FMN adenylyltransferase 1934394 1933477
NMB1835 tyrosyl-tRNA synthetase 1936217 1934925
NMB1836 lipopolysaccharide biosynthesis protein WbpC, putative 1938151
        1936283
NMB1837 hypothetical protein 1938466 1938215
NMB1838 GTP-binding protein, putative 1939615 1938527
NMB1839 formate--tetrahydrofolate ligase 1941406 1939733
NMB1840 conserved hypothetical protein 1941581 1942009
NMB1841 mannose-1-phosphate guanyltransferase-related protein 1942741
        1942049
NMB1842 4-hydroxyphenylacetate 3-hydroxylase, small subunit, putative
        1943257 1942760
NMB1843 transcriptional regulator, MarR family 1943812 1943375
NMB1844 hypothetical protein 1943938 1943819
NMB1845 thioredoxin 1944662 1944156
NMB1846 Mrp/NBP35 family protein 1945032 1946108
NMB1847 pilC1 protein FRAMESHIFT 1947287 1950374
NMB1848 hypothetical protein 1952279 1951938
NMB1849 carbamoyl-phosphate synthase, small subunit 1952589 1953719
NMB1850 hypothetical protein 1954091 1954363
NMB1851 hypothetical protein 1954440 1954697
NMB1852 conserved hypothetical protein 1954697 1955083
NMB1853 hypothetical protein 1955422 1955691
NMB1854 hypothetical protein 1955768 1956406
NMB1855 carbamoyl-phosphate synthase, large subunit 1956438 1959650
NMB1856 transcriptional regulator, LysR family 1960777 1959881
NMB1857 modulator of drug activity B 1961016 1961591
```

Appendix B   -31-

NMB1858 hypothetical protein 1961977 1961594
NMB1859 S-adenosylmethionine:tRNA ribosyltransferase-isomerase 1963108
        1962071
NMB1860 acetyl-CoA carboxylase, biotin carboxyl carrier protein 1963464
        1963916
NMB1861 acetyl-CoA carboxylase, biotin carboxylase 1964031 1965389
NMB1862 ribosomal protein L11 methyltransferase 1965653 1966537
NMB1863 oligoribonuclease 1966558 1967118
NMB1864 glutamate-1-semialdehyde 2,1-aminomutase 1968808 1967528
·NMB1865 hypothetical protein 1968821 1969036
NMB1866 conserved hypothetical protein 1969593 1970918
NMB1867 1-deoxyxylulose-5-phosphate synthase 1972919 1971009
NMB1868 integrase/recombinase XerC 1973909 1973007
NMB1869 fructose-bisphosphate aldolase 1974093 1975154
NMB1870 hypothetical protein 1975177 1976136
NMB1871 conserved hypothetical protein 1976286 1976960
NMB1872 ribosomal-protein-alanine acetyltransferase, putative 1976960
        1977397
NMB1873 DNA polymerase, bacteriophage-type, putative 1977394 1978128
NMB1874 orotate phosphoribosyltransferase 1978193 1978831
NMB1875 hypothetical protein 1978908 1979339
NMB1876 N-acetylglutamate synthase 1979339 1980646
NMB1877 prolyl oligopeptidase family protein 1980850 1982862
NMB1878 transcriptional regulator, AraC family 1983567 1982983
NMB1879 hypothetical protein 1983936 1983628
NMB1880 ABC transporter, periplasmic solute-binding protein, putative
        1984172 1985134
NMB1881 conserved hypothetical protein 1985694 1986014
NMB1882 TonB-dependent receptor 1986131 1988305
NMB1883 hypothetical protein 1988727 1988440
NMB1884 conserved hypothetical protein 1989047 1988727
NMB1885 protein-L-isoaspartate O-methyltransferase 1989783 1989130
NMB1886 conserved hypothetical protein 1990389 1989889
NMB1887 triosephosphate isomerase 1990568 1991338
NMB1888 protein-export membrane protein SecG 1991348 1991695
NMB1889 hypothetical protein 1992486 1992575
NMB1890 conserved hypothetical protein 1992709 1993074
NMB1891 helix-turn-helix family protein 1993074 1993382
NMB1892 hypothetical protein 1993495 1993704
NMB1893 conserved hypothetical protein FRAMESHIFT 1994615 1993771
NMB1894 leucyl-tRNA synthetase, truncation 1994851 1994723
NMB1895 DNA adenine methylase, truncation 1994987 1994847
NMB1896 type II restriction enzyme DpnI 1995774 1994974
NMB1897 leucyl-tRNA synthetase 1998538 1995911
NMB1898 lipoprotein 1998808 1999320
NMB1899 hypothetical protein 1999330 1999770
NMB1900 polyphosphate kinase 1999849 2001996
NMB1901 IS1016C2 transposase, degenerate 2002232 2002770
NMB1902 DNA polymerase III, beta subunit 2004113 2003013
NMB1903 chromosomal replication initiator protein DnaA 2005904 2004351
NMB1904 ribosomal protein L34 2006196 2006327
NMB1905 ribonuclease P protein component 2006333 2006695
NMB1906 conserved hypothetical protein 2006763 2006981
NMB1907 60 kd inner-membrane protein 2007156 2008790
NMB1908 conserved hypothetical protein 2009599 2008877
NMB1909 Maf/YceF/YhdE family protein 2010236 2009649
NMB1910 conserved hypothetical protein 2010384 2010884
NMB1911 50S ribosomal protein L32 2010921 2011097
NMB1912 conserved hypothetical protein 2011275 2011799
NMB1913 fatty acid/phospholipid synthesis protein 2011891 2012943
NMB1914 hypothetical protein 2013082 2013330
NMB1915 hypothetical protein 2013360 2013746
NMB1916 3-oxoacyl-(acyl-carrier-protein) synthase III 2013931 2014890
NMB1917 conserved hypothetical protein 2014940 2015344

Appendix B   -32-

NMB1918 malonyl CoA-acyl carrier protein transacylase 2015441 2016364
NMB1919 ABC transporter, ATP-binding protein 2016505 2018367
NMB1920 GMP synthase 2018470 2020032
NMB1921 3-oxoacyl-(acyl-carrier-protein) reductase 2020097 2020840
NMB1922 IS1106 transposase, degenerate 2021273 2021118
NMB1923 conserved hypothetical protein 2021377 2021757
NMB1924 inositol monophosphatase family protein 2022673 2021981
NMB1925 conserved hypothetical protein 2022876 2023598
NMB1926 lacto-N-neotetraose biosynthesis glycosyl transferase LgtE 2025680
        2024841
NMB1927 lacto-N-neotetraose biosynthesis glycosyl transferase-related
        protein 2025817 2025725
NMB1928 lacto-N-neotetraose biosynthesis glycosyl transferase LgtB 2026656
        2025832
NMB1929 lacto-N-neotetraose biosynthesis glycosyl transferase LgtA 2027747
        2026701
NMB1930 glycyl-tRNA synthetase, beta chain 2029827 2027767
NMB1931 hypothetical protein 2030256 2029912
NMB1932 glycyl-tRNA synthetase, alpha chain 2031238 2030336
NMB1933 ATP synthase F1, epsilon subunit 2032065 2031646
NMB1934 ATP synthase F1, beta subunit 2033473 2032079
NMB1935 ATP synthase F1, gamma subunit 2034386 2033514
NMB1936 ATP synthase F1, alpha subunit 2035958 2034414
NMB1937 ATP synthase F1, delta subunit 2036502 2035972
NMB1938 ATP synthase F0, B subunit 2036977 2036510
NMB1939 ATP synthase F0, C subunit 2037284 2037051
NMB1940 ATP synthase F0, A subunit 2038207 2037344
NMB1941 hypothetical protein 2038550 2038200
NMB1942 hypothetical protein 2038997 2038707
NMB1943 hypothetical protein 2039340 2039170
NMB1944 ParB family protein 2040252 2039395
NMB1945 3-octaprenyl-4-hydroxybenzoate carboxy-lyase 2040407 2040976
NMB1946 outer membrane lipoprotein 2041904 2041044
NMB1947 ABC transporter, permease protein 2042749 2042066
NMB1948 ABC transporter, ATP-binding protein 2043488 2042754
NMB1949 soluble lytic murein transglycosylase, putative 2044018 2045865
NMB1950 30S ribosomal protein S21 2046157 2046366
NMB1951 conserved hypothetical protein 2046405 2046944
NMB1952 stringent starvation protein B 2047538 2047149
NMB1953 stringent starvation protein A 2048215 2047613
NMB1954 hypothetical protein 2050146 2048488
NMB1955 cadmium resistance protein 2050933 2050310
NMB1956 50S ribosomal protein L31 2051451 2051239
NMB1957 acetyltransferase-related protein FRAMESHIFT 2051688 2052197
NMB1958 thioredoxin, putative 2052770 2052273
NMB1959 conserved hypothetical protein 2053150 2052770
NMB1960 hypothetical protein 2053632 2053153
NMB1961 VacJ-related protein 2054464 2053640
NMB1962 hypothetical protein 2054739 2054464
NMB1963 conserved hypothetical protein 2055380 2054793
NMB1964 conserved hypothetical protein 2055911 2055420
NMB1965 conserved hypothetical protein 2056738 2055965
NMB1966 ABC transporter, ATP-binding protein 2057586 2056789
NMB1967 transcriptional regulator, AraC family 2057759 2058673
NMB1968 aldehyde dehydrogenase A 2058936 2060375
NMB1969 serotype-1-specific antigen, putative 2061412 2064657
NMB1970 para-aminobenzoate synthetase component I/4-amino-4-
        deoxychorismate lyase, putative 2065692 2067470
NMB1971 conserved hypothetical protein 2069049 2067535
NMB1972 chaperonin, 60 kDa 2071379 2069748
NMB1973 chaperonin, 10 kDa 2071762 2071475
NMB1974 IS1016C2 transposase, degenerate 2071990 2072639
NMB1975 sodium- and chloride-dependent transporter 2072855 2074387
NMB1976 diaminopimelate decarboxylase 2075759 2074518

Appendix B   -33-

```
NMB1977 hypothetical protein 2075940 2075773
NMB1978 cyaY protein 2076011 2076331
NMB1979 conserved hypothetical protein 2076361 2077374
NMB1980 conserved hypothetical protein 2077403 2077819
NMB1981 conserved hypothetical protein 2077844 2078347
NMB1982 DNA polymerase I 2078496 2081309
NMB1983 hypothetical protein 2082658 2083326
NMB1984 IS1106 transposase FRAMESHIFT 2083391 2084499
NMB1985 adhesion and penetration protein 2089191 2084821
NMB1986 hypothetical protein 2089756 2089328
NMB1987 thiophene and furan oxidation protein ThdF 2090041 2091384
NMB1988 iron-regulated outer membrane protein FrpB 2092611 2094752
NMB1989 iron(III) ABC transporter, periplasmic binding protein 2095472
        2096434
NMB1990 iron(III) ABC transporter, permease protein 2096601 2097566
NMB1991 iron(III) ABC transporter, permease protein 2097559 2098530
NMB1992 hypothetical protein 2098577 2099200
NMB1993 iron(III) ABC transporter, ATP-binding protein 2099286 2100041
NMB1994 adhesin/invasin, putative 2100342 2101433
NMB1995 nitrogen regulatory protein P-II, FRAMESHIFT 2101839 2101423
NMB1996 phosphoribosylformylglycinamidine synthase 2101990 2105949
NMB1997 hydroxyacylglutathione hydrolase 2106047 2106802
NMB1998 serine-type peptidase 2107119 2111411
NMB1999 magnesium transporter 2111646 2113097
NMB2000 conserved hypothetical protein 2114094 2113189
NMB2001 conserved hypothetical protein 2114339 2115091
NMB2002 hypothetical protein 2115113 2115328
NMB2003 conserved hypothetical protein 2115476 2115820
NMB2004 conserved hypothetical protein 2115820 2116509
NMB2005 glutamate N-acetyltransferase/amino-acid acetyltransferase 2116579
        2117796
NMB2006 chloride channel protein-related protein 2117859 2119265
NMB2007 ATP-dependent RNA helicase HrpA, truncation 2119458 2120846
NMB2008 ABC transporter, ATP-binding protein-related protein 2120993
        2122633
NMB2009 ATP-dependent RNA helicase HrpA, degenerate 2122680 2122859
NMB2010 YhbX/YhjW/YijP/YjdB family protein 2123074 2124648
NMB2011 ATP-dependent RNA helicase HrpA, truncation 2124717 2128133
NMB2012 transcriptional regulator, HTH_3 family 2129260 2128172
NMB2013 hypothetical protein 2129920 2129279
NMB2014 hypothetical protein 2130249 2130004
NMB2015 hypothetical protein 2130614 2130880
NMB2016 type IV pilin-related protein 2131493 2131047
NMB2017 ComEA-related protein 2132027 2131584
NMB2018 conserved hypothetical protein 2138411 2137752
NMB2019 lipopolysaccharide core biosynthesis protein KdtB 2138949 2138440
NMB2020 conserved hypothetical protein 2139756 2139076
NMB2021 conserved hypothetical protein 2140179 2139916
NMB2022 conserved hypothetical protein 2140722 2140255
NMB2023 conserved hypothetical protein 2141162 2140779
NMB2024 conserved hypothetical protein 2141826 2141224
NMB2025 conserved hypothetical protein 2142422 2141826
NMB2026 ABC transporter, permease protein 2144046 2142454
NMB2027 gluconate permease 2144385 2145767
NMB2028 thermoresistant gluconokinase 2145790 2146305
NMB2029 homoserine kinase FRAMESHIFT 2147564 2146650
NMB2030 3-demethylubiquinone-9 3-methyltransferase 2148329 2147604
NMB2031 tryptophan transporter 2148481 2149719
NMB2032 lipopolysaccharide glycosyl transferase, FRAMESHIFT 2149872
        2150922
NMB2033 histidinol-phosphatase, putative 2151173 2151733
NMB2034 1-acyl-sn-glycerol-3-phosphate acyltransferase, putative 2151765
        2152505
NMB2035 conserved hypothetical protein 2152505 2153194
```

Appendix B   -34-

```
NMB2036 tRNA pseudouridine synthase A 2154495 2155390
NMB2037 hypothetical protein 2155415 2155651
NMB2038 PemK-related protein 2155642 2155962
NMB2039 major outer membrane protein PIB 2157487 2158479
NMB2040 thiamine biosynthesis protein ThiC 2161479 2159581
NMB2041 thiamin pyrophosphokinase-related protein 2162093 2162965
NMB2042 spermidine/putrescine ABC transporter, ATP-binding protein 2162977
        2163912
NMB2043 IS1106 transposase, putative POINT MUTATION 2165702 2164734
NMB2044 phosphoenolpyruvate-protein phosphotransferase 2168278 2166506
NMB2045 phosphocarrier protein HPr 2168547 2168281
NMB2046 PTS system, IIAB component 2169074 2168619
NMB2047 hypoxanthine-guanine phosphoribosyltransferase, putative 2169697
        2169137
NMB2048 DNA ligase 2170590 2169769
NMB2049 glyoxalase II family protein 2170682 2171311
NMB2050 conserved hypothetical protein 2173305 2171524
NMB2051 ubiquinol--cytochrome c reductase, cytochrome c1 2174444 2173647
NMB2052 ubiquinol--cytochrome c reductase, cytochrome b 2175793 2174447
NMB2053 ubiquinol--cytochrome c reductase, iron-sulfur subunit 2176393
        2175815
NMB2054 conserved hypothetical protein 2177265 2176519
NMB2055 transcriptional regulator, LysR family 2177396 2178322
NMB2056 30S ribosomal protein S9 2178972 2178583
NMB2057 50S ribosomal protein L13 2179413 2178985
NMB2058 conserved hypothetical protein 2180081 2179779
NMB2059 hypothetical protein 2180421 2180095
NMB2060 glycerol-3-phosphate dehydrogenase (NAD+) 2181465 2180479
NMB2061 phosphoenolpyruvate carboxylase 2184290 2181591
NMB2062 thiF protein 2184460 2185227
NMB2063 slyX protein, putative 2186018 2185797
NMB2064 conserved hypothetical protein 2187407 2186022
NMB2065 hemK protein FRAMESHIFT 2188764 2187496
NMB2066 tldD protein 2190271 2188832
NMB2067 conserved hypothetical protein 2190661 2191881
NMB2068 D-amino acid oxidase flavoprotein, putative 2191881 2192978
NMB2069 thiamin-phosphate pyrophosphorylase 2193003 2193617
NMB2070 hypothetical protein 2194042 2194233
NMB2071 thiG protein 2194450 2195235
NMB2072 hypothetical protein 2195352 2195492
NMB2073 hypothetical protein 2195580 2195780
NMB2074 hypothetical protein 2196867 2196004
NMB2075 BirA protein/Bvg accessory factor 2198657 2196882
NMB2076 aut protein 2199160 2198657
NMB2077 methylenetetrahydrofolate dehydrogenase/methenyltetrahydrofolate
        cyclohydrolase FRAMESHIFT 2199800 2200650
NMB2078 conserved hypothetical protein 2201296 2200718
NMB2079 aspartate-semialdehyde dehydrogenase 2201472 2202584
NMB2080 hypothetical protein 2203345 2202818
NMB2081 hypothetical protein 2203700 2203359
NMB2082 exodeoxyribonuclease 2204466 2203690
NMB2083 cysteinyl-tRNA synthetase 2205970 2204552
NMB2084 hypothetical protein 2206648 2205985
NMB2085 hypothetical protein 2207707 2206661
NMB2086 GTP-binding protein 2208944 2207793
NMB2087 hypothetical protein 2209792 2209433
NMB2088 conserved hypothetical protein 2210766 2209894
NMB2089 conserved hypothetical protein 2210812 2211156
NMB2090 phosphoheptose isomerase 2211164 2211754
NMB2091 hemolysin, putative 2211821 2212426
NMB2092 hypothetical protein 2212437 2213066
NMB2093 methionine aminopeptidase 2213109 2213885
NMB2094 hypothetical protein 2214043 2214339
NMB2095 adhesin complex protein, putative 2214580 2214951
```

Appendix B　　　　　　　　　　　-35-

```
NMB2096 malate:quinone oxidoreductase 2216608 2215145
NMB2097 hypothetical protein 2216749 2216663
NMB2098 conserved hypothetical protein 2217735 2217148
NMB2099 conserved hypothetical protein 2218377 2217799
NMB2100 hypothetical protein 2218455 2218685
NMB2101 30S ribosomal protein S2 2218861 2219586
NMB2102 elongation factor TS (EF-TS) 2219718 2220569
NMB2103 uridylate kinase 2220789 2221505
NMB2104 mafA protein FRAMESHIFT 2221692 2222652
NMB2105 mafB protein 2222695 2224143
NMB2106 hypothetical protein 2224143 2224496
NMB2107 MafB-related protein 2224527 2225288
NMB2108 hypothetical protein 2225301 2225504
NMB2109 hypothetical protein 2225639 2225887
NMB2110 hypothetical protein 2225887 2226255
NMB2111 MafB-related protein 2226268 2227110
NMB2112 hypothetical protein 2227306 2227572
NMB2113 hypothetical protein 2227598 2227897
NMB2114 MafB-related protein 2227948 2228583
NMB2115 hypothetical protein 2228589 2228930
NMB2116 hypothetical protein 2228971 2229312
NMB2117 MafB-related protein, degenerate 2229645 2230340
NMB2118 hypothetical protein 2230340 2230654
NMB2119 MafB-related protein 2230709 2231464
NMB2120 hypothetical protein 2231471 2231869
NMB2121 hypothetical protein 2232031 2232372
NMB2122 MafB-related protein 2232409 2232510
NMB2123 hypothetical protein 2232518 2232871
NMB2124 hypothetical protein 2232922 2233047
NMB2125 hypothetical protein 2233047 2233418
NMB2126 IS1016 family transposase, putative FRAMESHIFT 2234296 2233462
NMB2127 protease, putative 2235364 2234381
NMB2128 CinA-related protein 2236204 2235407
NMB2129 argininosuccinate synthase 2236517 2237857
NMB2130 hypothetical protein 2237908 2238147
NMB2131 hypothetical protein 2238143 2238355
NMB2132 transferrin-binding protein-related protein 2239900 2238437
NMB2133 sodium/dicarboxylate symporter family protein 2241384 2240158
NMB2134 conserved hypothetical protein 2241857 2243761
NMB2135 conserved hypothetical protein 2243771 2247985
NMB2136 peptide transporter 2249471 2250925
NMB2137 hypothetical protein 2251451 2251660
NMB2138 peptide chain release factor 2 2252924 2251824
NMB2139 conserved hypothetical protein 2253920 2253030
NMB2140 conserved hypothetical protein 2254265 2254711
NMB2141 hypothetical protein 2254787 2255092
NMB2142 conserved hypothetical protein 2255187 2256050
NMB2143 conserved hypothetical protein 2256043 2256786
NMB2144 sigma factor, putative 2256811 2257395
NMB2145 hypothetical protein 2257404 2257580
NMB2146 hypothetical protein 2257703 2257810
NMB2147 hypothetical protein 2257842 2258261
NMB2148 transposase, IS30 family 2258738 2259700
NMB2149 hypothetical protein 2260052 2259795
NMB2150 conserved hypothetical protein 2261006 2260440
NMB2151 phosphoribosylamine--glycine ligase 2262344 2261076
NMB2152 hypothetical protein 2262502 2262816
NMB2153 conserved hypothetical protein 2263482 2262874
NMB2154 electron transfer flavoprotein, alpha subunit 2264480 2263548
NMB2155 electron transfer flavoprotein, beta subunit 2265240 2264494
NMB2156 heptosyltransferase I 2266435 2265470
NMB2157 pyrazinamidase/nicotinamidase PncA, putative 2267107 2266475
NMB2158 conserved hypothetical protein 2267221 2267898
NMB2159 glyceraldehyde 3-phosphate dehydrogenase 2269163 2268162
```

NMB2160 DNA mismatch repair protein MutS 2269607 2272198
NMB0505 hypothetical protein 533467 533186
NMB1123 hypothetical protein 1135584 1135390
NMB1124 hypothetical protein 1136271 1135627
NMB1125 hypothetical protein 1136639 1136271
NMB1126 hypothetical protein 1137317 1136649
NMB1127 oxidoreductase, short chain dehydrogenase/reductase family 1138201
        1137485
NMB1129 hypothetical protein 1139833 1139630
NMB1130 phytoene synthase, putative 1140867 1139998
NMB1133 conserved hypothetical protein / ankyrin-related protein 1144428
        1143670
NMB1134 ferredoxin, 2Fe-2S type 1144824 1144486
NMB1135 hypothetical protein 1145242 1145102
NMB1137 conserved hypothetical protein 1146211 1146017
NMB1138 conserved hypothetical protein 1146683 1146285
NMB1141 RNA methyltransferase, TrmH family 1150088 1149480
NMB1142 hypothetical protein 1150375 1150142
NMB1143 hypothetical protein 1150909 1150547
NMB1144 hypothetical protein 1151226 1150924, lipoprotein
NMB1147 hypothetical protein 1154639 1154007, homology to plasmid proteins
        Y4SH_RISHN and PXO2 BACAN
NMB1149 hypothetical protein 1155016 1154876
NMB1151 sulfite reductase hemoprotein, beta-component 1159086 1157320
NMB1152 sulfite reductase (NADPH) flavoprotein, alpha component 1160927
        1159116
NMB1154 sulfate adenylyltransferase, subunit 2 1163172 1162252
NMB1156 siroheme synthase 1165412 1163964
NMB1157 hypothetical protein 1165696 1165541
NMB1159 conserved hypothetical protein 1167316 1166429, inner membrane
NMB1160 conserved hypothetical protein 1167316 1166429
NMB1166 conserved hypothetical protein 1171633 1170323
NMB1169 chaperone protein HscA 1174933 1173074
NMB1170 hypothetical protein 1175666 1175013
NMB1174 hypothetical protein 1178053 1177373
NMB1177 acetyl-CoA carboxylase, carboxyl transferase alpha subunit 1179887
        1178931
NMB1178 mesJ protein FRAMESHIFT 1181265 1179984
NMB1183 UDP-N-acetylmuramate:L-alanyl-gamma-D-glutamyl-meso-
        diaminopimelate ligase 1184700 1183327
NMB1184 biotin synthetase 1185959 1184910
NMB1186 hypothetical protein 1186881 1186729
NMB1188 dihydroxy-acid dehydratase 1189180 1187324
NMB1191 sulfate adenylyltransferase, subunit 1 1194246 1192963
NMB1193 phosphoadenosine phosphosulfate reductase 1195986 1195249
NMB1196 nickel-dependent hydrogenase, b-type cytochrome subunit 1198401
        1197748

INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7   C12Q1/68   C12N15/11   C07K14/22

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7   C12Q   C12N   C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, CHEM ABS Data, MEDLINE, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 17805 A (RAYMOND NIGEL ;QUINN FREDERICK D (US); US HEALTH (US); RIBOT EFRAI) 30 April 1998 (1998-04-30) the whole document ---	1-4, 7-14, 18-24
X	EP 0 467 714 A (MERCK & CO INC) 22 January 1992 (1992-01-22) claims; example 3 --- -/--	1-4, 7-14, 18-24

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu- ments, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
10 October 2000	19. 10. 00

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Luzzatto, E

Form PCT/ISA/210 (second sheet) (July 1992)

10

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
A	FLEISCHMANN R D ET AL: "WHOLE-GENOME RANDOM SEQUENCING AND ASSEMBLY OF HAEMOPHILUS INFLUENZAE RD" SCIENCE,US,AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,, vol. 269, no. 5223, 28 July 1995 (1995-07-28), pages 496-498,507-51, XP000517090 ISSN: 0036-8075 the whole document	1-4, 7-14, 16-24
T	TETTELIN H ET AL: "Complete genome sequence of Neisseria meningitidis serogroup B strain MC58 'see comments!." SCIENCE, (2000 MAR 10) 287 (5459) 1809-15., XP000914963 page 963	
T	PIZZA M ET AL: "Identification of vaccine candidates against serogroup B meningococcus by whole- genome sequencing 'see comments!." SCIENCE, (2000 MAR 10) 287 (5459) 1816-20., XP000914964 the whole document	
T	PARKHILL J ET AL: "Complete DNA sequence of a serogroup A strain of Neisseria meningitidis Z2491 'see comments!." NATURE, (2000 MAR 30) 404 (6777) 502-6., XP000918875 the whole document	

10

| Box I | Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet) |

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. [X] Claims Nos.:   16,17 (partly)
   because they relate to subject matter not required to be searched by this Authority, namely:

   Rule 39.1(v)   PCT - Presentation of information (insofar as related to computer databases)

2. [X] Claims Nos.:   5,6,15 (completely), 1-4, 7-14, 16-24 (partly)
   because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

   see FURTHER INFORMATION sheet PCT/ISA/210

3. [ ] Claims Nos.:
   because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

| Box II | Observations where unity of invention is lacking (Continuation of item 2 of first sheet) |

This International Searching Authority found multiple inventions in this international application, as follows:

1. [ ] As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. [ ] As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. [ ] As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. [ ] No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

[ ] The additional search fees were accompanied by the applicant's protest.

[ ] No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM   PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 5,6,15 (completely), 1-4, 7-14, 16-24 (partly)

1) Claims 5 and 6 (and thus 15 which refers to claim 6 and whose
reference to claims 7 and 8 is wrong) lack any essential technical
feature which could allow a meaningful search to be carried out. They
have thus not been searched. For the same reason claims 18-24 have not
been searched insofar as referring to any of claims 5, 6 and 15.

2) Claims 1-4, 7-14, 16-24 have only been searched insofar as related to
the full sequence SEQ ID 1 in view of the absence of any indication in
the claims as to searcheable SEQ IDs corresponding to the "NMB open
reading frames". SEQ ID 1 as such is not searchable by means of
similarity algorithms since it is too long: the search with respect
thereto has thus been carried out based on keywords.

3) A further reason for not searching claims 1-4 insofar as related to
"NMB open reading frames" is that claim 1 is unclear (Art. 6 PCT).
It relates to a method for searching open reading frames "within one or
more...NMB open reading frames", which is however technically
meaningless.

The applicant's attention is drawn to the fact that claims, or parts of
claims, relating to inventions in respect of which no international
search report has been established need not be the subject of an
international preliminary examination (Rule 66.1(e) PCT). The applicant
is advised that the EPO policy when acting as an International
Preliminary Examining Authority is normally not to carry out a
preliminary examination on matter which has not been searched. This is
the case irrespective of whether or not the claims are amended following
receipt of the search report or during any Chapter II procedure.

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 9817805	A	30-04-1998	AU	5426098 A	15-05-1998
EP 0467714	A	22-01-1992	AU	8114091 A	23-01-1992
			CA	2047043 A	20-01-1992
			FI	913473 A	20-01-1992
			JP	6056690 A	01-03-1994
			MX	9100272 A	28-02-1992
			NO	912822 A	20-01-1992
			PT	98381 A	29-05-1992
			ZA	9105629 A	25-03-1992
			AU	8113691 A	23-01-1992
			CA	2050635 A	20-01-1992
			FI	913475 A	20-01-1992
			JP	6016569 A	25-01-1994
			JP	6055679 B	27-07-1994
			NO	912823 A	20-01-1992
			NZ	238974 A	23-12-1992
			PT	98382 A	29-05-1992
			ZA	9105627 A	25-03-1992
			AU	8113791 A	23-01-1992
			CA	2047030 A	20-01-1992
			FI	913474 A	20-01-1992
			JP	6041197 A	15-02-1994
			MX	9100274 A	28-02-1992
			NO	912824 A	20-01-1992
			PT	98383 A	30-06-1992
			ZA	9105628 A	25-03-1992